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ABSTRACT

The purpose of this study was to design an information system for the Missouri Commission on Higher Education that would provide timely information for planning to meet the higher education needs in the state. The system provides planning and information reports, divided into the following subsystems: student information; program information; financial information; personnel information; and facilities information. This system would provide current information and longer term projections for both public and private higher education institutions, including junior colleges, four year colleges and universities. In addition, selected data would be provided on higher education in states surrounding Missouri. (AF)

ED040644

MISSOURI COMMISSION ON HIGHER  
EDUCATION

SPECIFICATIONS FOR A HIGHER  
EDUCATION INFORMATION SYSTEM

September 1968

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CRESAP, Mc Cormick + Pagel  
Management Consultants

MISSOURI COMMISSION ON HIGHER  
EDUCATION

SPECIFICATIONS FOR A HIGHER  
EDUCATION INFORMATION SYSTEM

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## I - INTRODUCTION AND CONCEPTUAL FRAMEWORK

## I - INTRODUCTION AND CONCEPTUAL FRAMEWORK

This report describes the proposed management information system which was designed to serve the information needs of the Missouri Commission on Higher Education. The system provides planning and information reports, divided into the following subsystems:

- Student information
- Program information
- Financial information
- Personnel information
- Facilities information.

The basic purpose of the study was to design an information system that would provide timely information for planning to meet the higher education needs of the State of Missouri. This system would provide current information and longer-term projections for both public and private higher education institutions, including junior colleges, four-year colleges and universities. In addition, selected data would be provided on higher education in states surrounding Missouri.

### APPROACH

The study included a review of the role and scope of the Commission's functions by examination of available documents and interviews with key Commission personnel. Data currently being collected by the Commission were studied in detail; an assessment was made of the Higher Education General Information Survey (HEGIS) reports; and interviews were held with key officials in the Office of Education of the Department of Health, Education and Welfare. Selected public and private higher education institutions were visited, and their internal information systems for students, programs, finances, personnel and facilities were studied.

As the study progressed, a total systems approach was developed to ensure consideration of sources, types of input data, required output reports and information uses. From this, an information framework was designed, including report elements and criteria. This framework was then reviewed with the Executive Secretary of the Commission and his staff to confirm that information needs were satisfied.

Individual subsystems were then constructed for the functional areas of students, programs, finances, personnel and facilities. Each subsystem consisted of flow charts, planning reports, information reports and record layouts. The subsystems were also reviewed with the Executive Secretary and his functional department heads. A series of visual presentations and discussions were then held with appropriate officials of public and private colleges and universities. Comments were solicited and revisions made to the subsystems as required.

Each subsystem was then integrated into the total systems approach, and a plan for implementation was developed.

## CONCEPTUAL FRAMEWORK

As noted, the system was designed to serve the information needs of the Commission, Executive Secretary, and the functional department heads. The types and sources of data considered necessary to satisfy these needs are described in Exhibit I-1 and I-2, following.

### Uses Of Information

After determining the needs of the recipients, an analysis was made of the uses of this information. These uses are broadly classified as follows:

- Furnishing of regular reports showing

- Current status

- Out-of-control conditions

- Potential trouble areas

- Trends (historical, present and projected data)



## MISSOURI HIGHER EDUCATION

TYPES AND SOURCES OF DATA

<u>Type</u>	<u>Source</u>
Political and financial environment	Educational and political contacts; news media
Economic and business data	Business and government
Higher education planning outside of Missouri	State and federal governments and educational associations
New technology <ul style="list-style-type: none"> <li>- Changes in existing programs</li> <li>- New programs and technical courses</li> <li>- Teaching methods and media</li> <li>- Information handling</li> </ul>	Educational, business and governmental contacts
Demographic data <ul style="list-style-type: none"> <li>- Historical base</li> <li>- Projections</li> </ul>	State, federal and local governments
State and regional data <ul style="list-style-type: none"> <li>- Existing plans, programs and guidelines</li> <li>- Historical data and reports</li> <li>- Facilities inventory</li> <li>- Title I and VI applications file</li> </ul>	The Commission and regional associations
Individual college data - historical, current and projected	Junior and senior colleges and universities

- Preparation of feedback reports including
  - Planning data (demographic, economic, educational and political)
  - Institutional comparisons
  - Identification of out-of-control conditions and potential trouble areas
  - Status of Title I and Title VI applications
- Furnishing of information on request for
  - Revising guidelines (budget, teaching load, facilities)
  - Updating existing programs and courses
  - Developing new programs and course offerings
  - Determining the need for, and location of, new State-supported junior or senior colleges
  - Revising the coordinated plan for Missouri higher education, and other plans as required
- Updating of the data base
- Administration of Title I and Title VI applications.

### Processing Steps

The following steps in processing, required to produce the reports and information listed above, were determined:

- Collect data
- Convert to machine processible form
- Edit and validate

- Manipulate

Classify and arrange

Summarize and calculate

Project

Compare to limits and identify exceptions

Analyze and compare among and within institutions and functions

- Select and store.

Input Form

The system has been designed to permit input in a variety of modes, in order to accommodate varying sizes of institutions and classes of individual institution mechanization capability. Input will be accepted in manual form, on punched cards, on disks or on magnetic tape.

Prime information will be requested in four subsystems, to provide the Commission with maximum flexibility and to minimize individual institution effort in processing data. Individual records will be requested for students, course sections, full-time faculty members, buildings and rooms. Buildings and rooms information is currently available in machine-processible form for all institutions in Missouri.

Other input data would be collected from HEGIS reports, nonfaculty summaries, current budget reports, and surveys from other states. Preparation of the HEGIS reports for student enrollments and personnel would no longer be required of the individual institutions because the Commission would have the necessary data to prepare these reports centrally.

Data Base

The concept of a ten-year moving data base has been developed to provide the historical base for identifying trends and making projections. This base would be extended forward from the date of the system's installation - that is, no attempt would be made to go back and recreate data for previous years. Each year (after ten years), the ten-year-old data would be dropped and the current year's data added to the data base.

## Report Selection

The approach to report selection was to consider initially the total number of potential reports, and reduce this to a practical number based upon recipient needs. This was accomplished through careful analysis, and the assignment of report priorities by the Executive Secretary, his staff and the study team.

To determine the variety of potential reports, the major report elements were displayed in three-dimensional figures, as shown in Exhibit I-3. The basic elements contained in reports were determined to be those of purpose, focus and form. Major subdivisions of these basic elements are shown in Exhibit I-3. Report combinations based on these first-level subdivisions would number over 200 varieties. Further subdivision of these elements would result in hundreds of additional reports. This exercise emphasized the need for selectivity in choosing necessary reports. Accordingly, matrixes were established to arrange the various report types for assignment of priority, as displayed in Exhibits I-4 and I-5. These matrixes were reviewed by the Executive Secretary, and modified where appropriate.

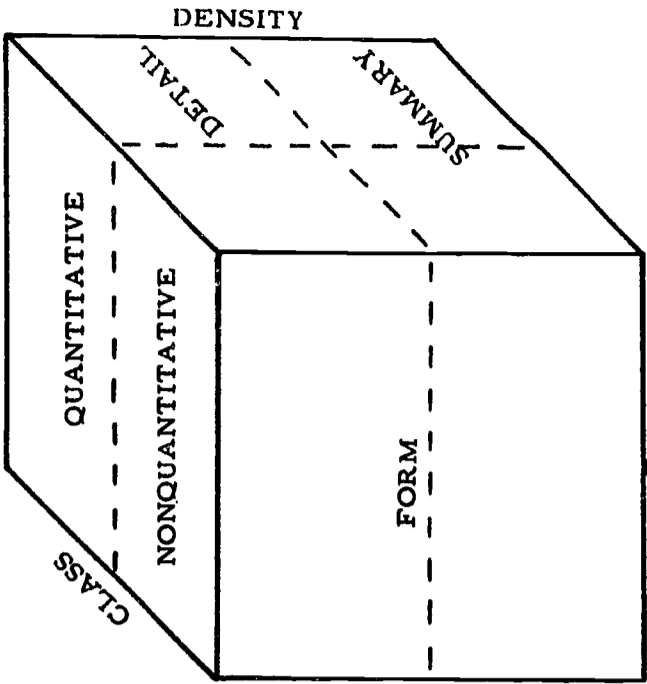
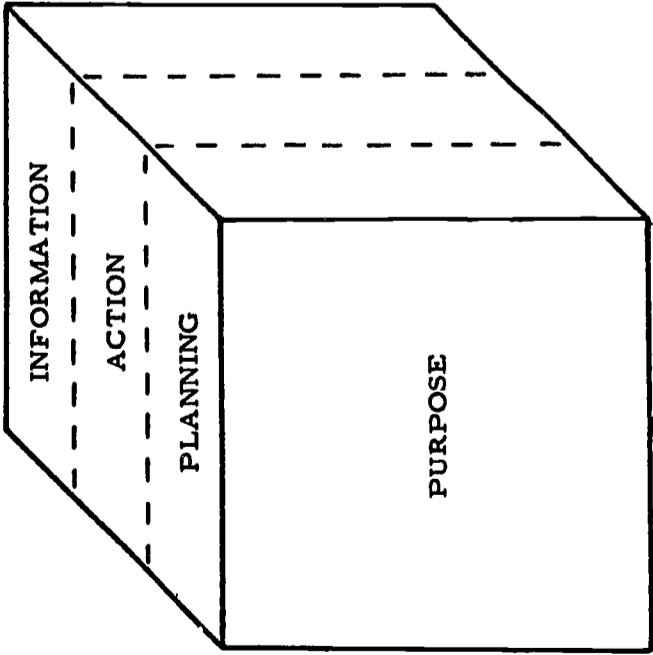
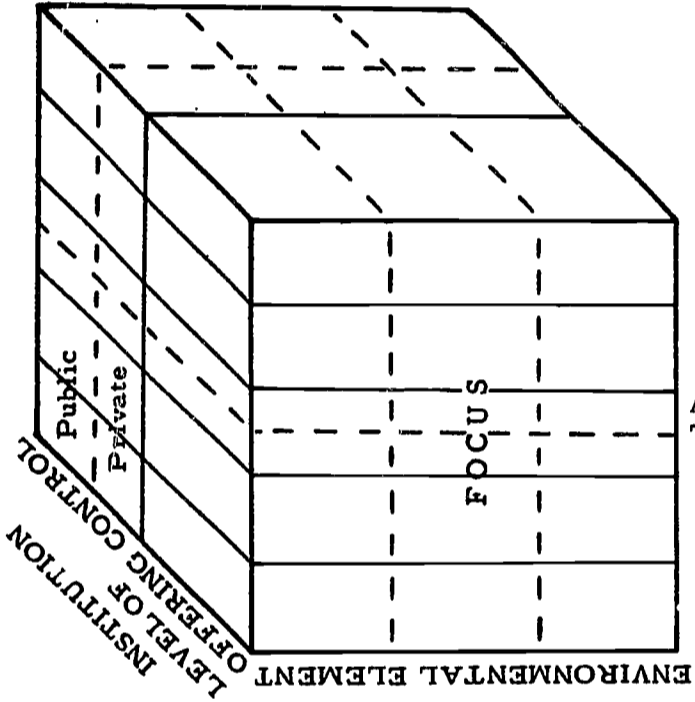
## Report Design

After priorities were determined, the following criteria were established and used in developing and designing the reports:

- They must
  - Serve a need
  - Convey new information
  - Be timely enough to influence future events
  - Be clear and concise
  - Be complete enough to enable action
  - Highlight important information.
- The pyramidal concept must be embodied in the overall report design framework.
- Graphics should be employed wherever appropriate.

MISSOURI HIGHER EDUCATION

REPORT ELEMENTS



RECIPIENT

- Commission
- Executive Secretary
- Functional Department Heads
  - Assistant Executive Secretary
  - Assistant to the Executive Secretary
  - Facilities Consultant
  - Director of Institutional Research
- Colleges and Universities
- State Officials
- Federal Agencies

MISSOURI HIGHER EDUCATION  
**PRIORITY OF FUNCTIONAL ACTIVITY,  
 BY PURPOSE AND RECIPIENT**

Recipient	Students			Programs			Personnel			Finance			Facilities		
	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION
Commission	1	X	1	2	2	1	1	X	1	1	1	1	1	1	1
Executive Secretary	1	X	1	2	2	1	1	X	1	1	1	1	1	1	1
Functional Departmental Heads Assistant Executive Secretary	2	X	1	3	X	2	1	X	1	1	1	1	2	X	2
Assistant To Executive Secretary	1	X	1	2	X	1	3	X	3	X	X	2	X	X	2
Facilities Consultant	3	X	1	3	X	1	3	X	1	1	X	1	1	1	1
Director Of Institutional Research	1	X	1	2	1	1	2	X	1	1	X	1	1	X	1
Colleges And Universities	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State Officials	X	X	1	X	X	1	X	X	1	1	1	1	X	1	1
Federal Agencies	X	X	1	X	X	1	X	X	1	1	1	1	X	1	1

**PRIORITY CODE**

1 - High

2 - Medium

3 - Low

X - Not needed

- The value of a report must exceed its cost.
- Exception reporting should be used where feasible.

Potential reports were then measured against these criteria. The reports selected as meeting the criteria were divided by purpose into two general groups - planning and information. Families of reports were then designed, primarily on the basis of the relative importance of individual reports.

Report headings were established in a consistent format to enable the recipients to understand and use the reports effectively. An example in the planning report series would be the use of the same heading, wherever possible, showing data from ten and five years ago, the current year, the next three years individually, and five and ten years from now. Information reports were designed to show comparative information in the same order on all reports - for instance, lists of state colleges.

Every report was designed to provide meaningful and useful information. Other available versions of the same report are listed, where applicable.

## II - STUDENT INFORMATION SUBSYSTEM

## II - STUDENT INFORMATION SUBSYSTEM

This chapter describes the proposed student information subsystem. This particular subsystem is the most significant one of the five that comprise the management information system, because the data collected for this subsystem is used in each of the other four. The subsystem is focused on reports which will provide data for analysis of the present and future student population of the State. These data include student characteristics, fields of study, degrees awarded, and student attrition in both public and private higher education institutions. No attempt has been made to track individual students or classes.

Individual institutions will be required to submit input records for every student. It is not intended that the subsystem identify each student, but it is important that each student record have a unique identification number for controlling input and other purposes. Other student data, such as demographic and political information, will be furnished by the Commission.

This chapter includes flow charts of the proposed subsystem describing the processing steps and the input and output requirements, planning and information report formats, and input record layouts.

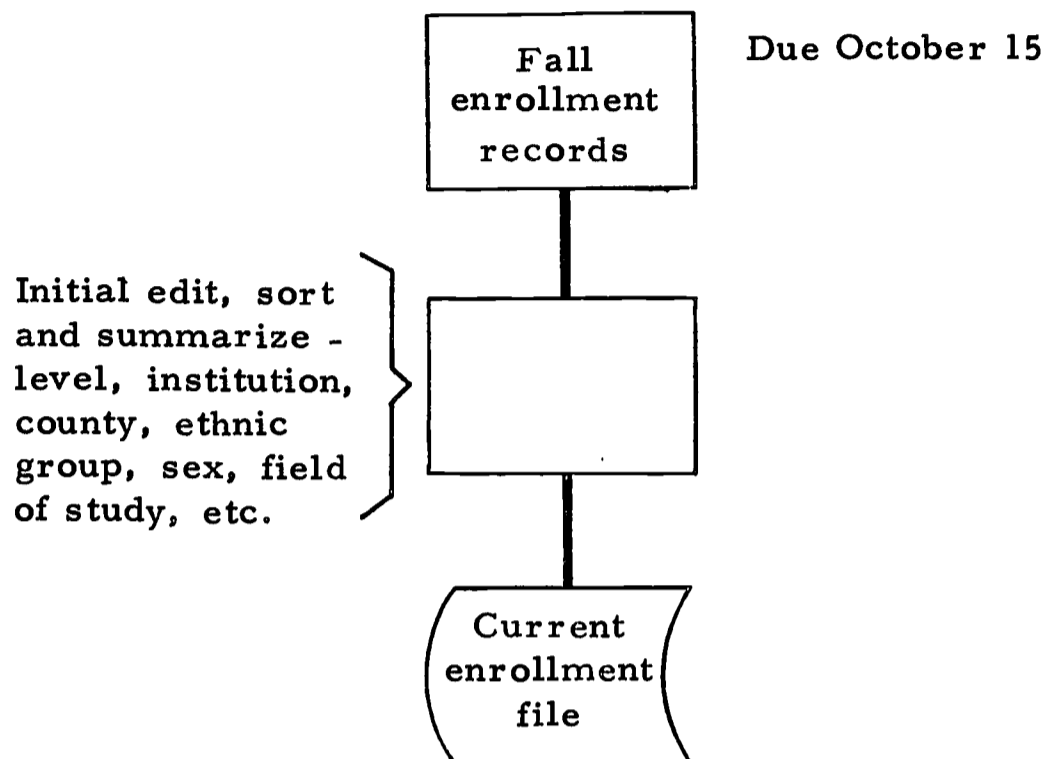
## A - FLOW CHARTS

### Exhibit Number

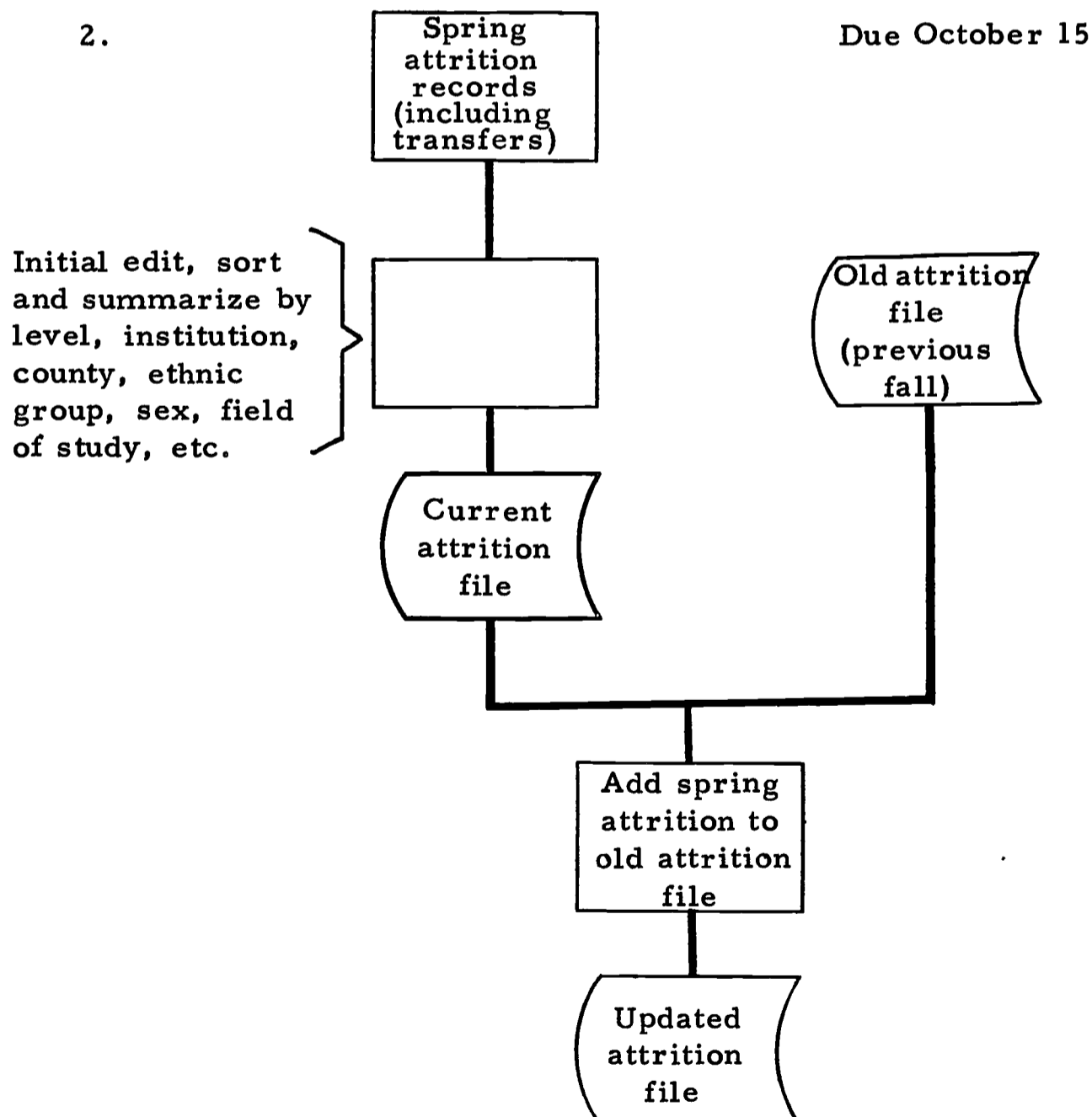
- |      |   |
|------|---|
| II-1 | Creating Initial Files Or Processing Fall Student Data                        |
| II-2 | Processing Spring Student Data  |
| II-3 | Updating Student Enrollment, Attrition, Degree Or<br>Demography History Files |
| II-4 | Processing Planning Reports   |
| II-5 | Processing Information Reports  |

MISSOURI HIGHER EDUCATION  
CREATING INITIAL FILES OR PROCESSING  
FALL STUDENT DATA

1.



2.



3.

Degrees by  
field of study  
for previous  
year (HEGIS)

Due September 1

Initial process  
and sort in  
same order  
as other data

Current  
degree  
file

4.

Data of selec-  
ted high school  
classes and  
other demo-  
graphic data

Due June 1

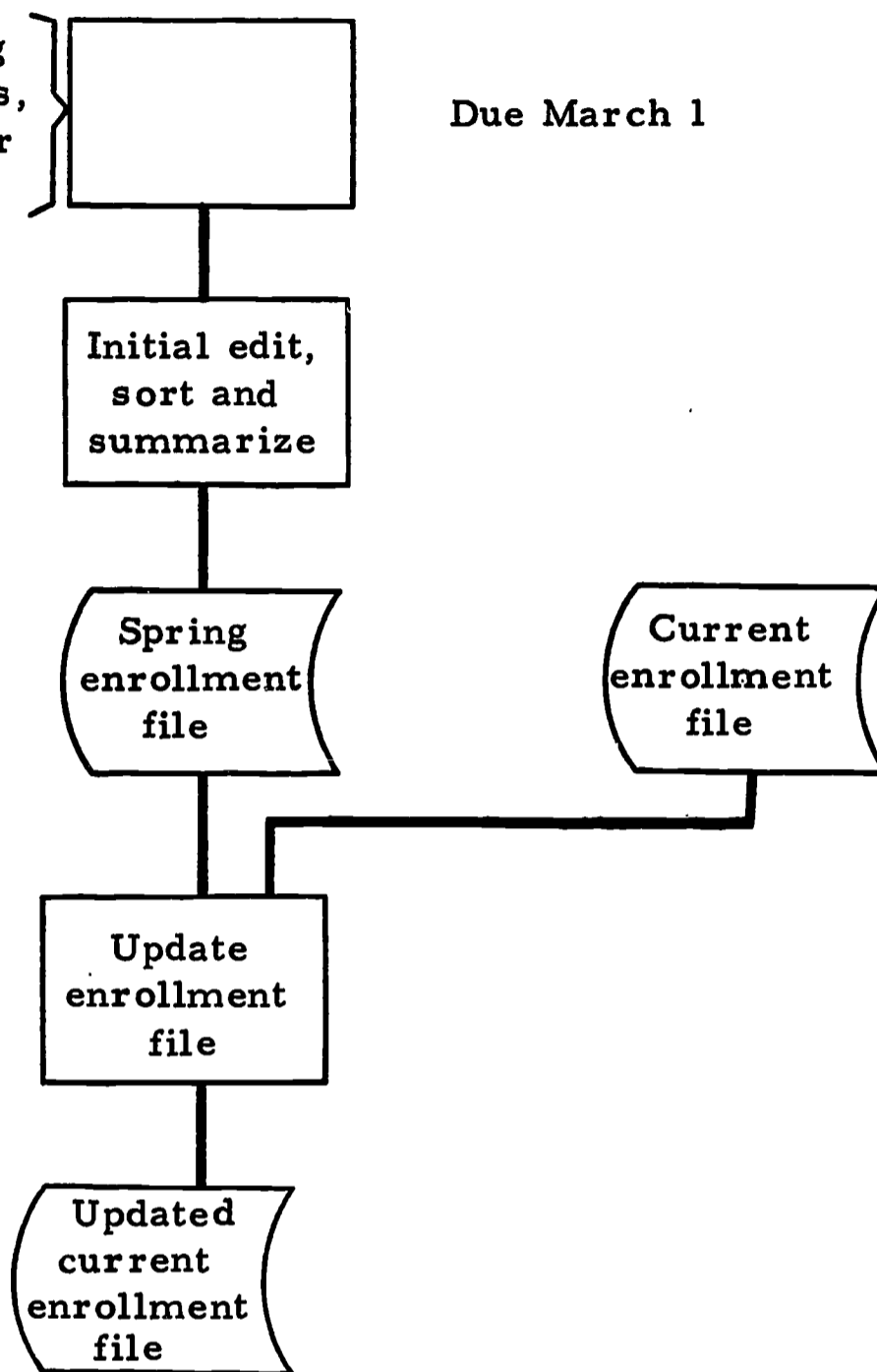
Initial process  
and sort in  
same order  
as other data

Current  
demography  
file

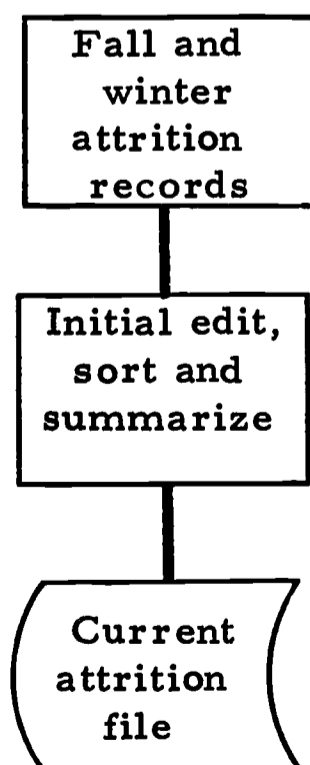
## MISSOURI HIGHER EDUCATION

## PROCESSING SPRING STUDENT DATA

1. Winter and spring enrollment records, excluding summer session

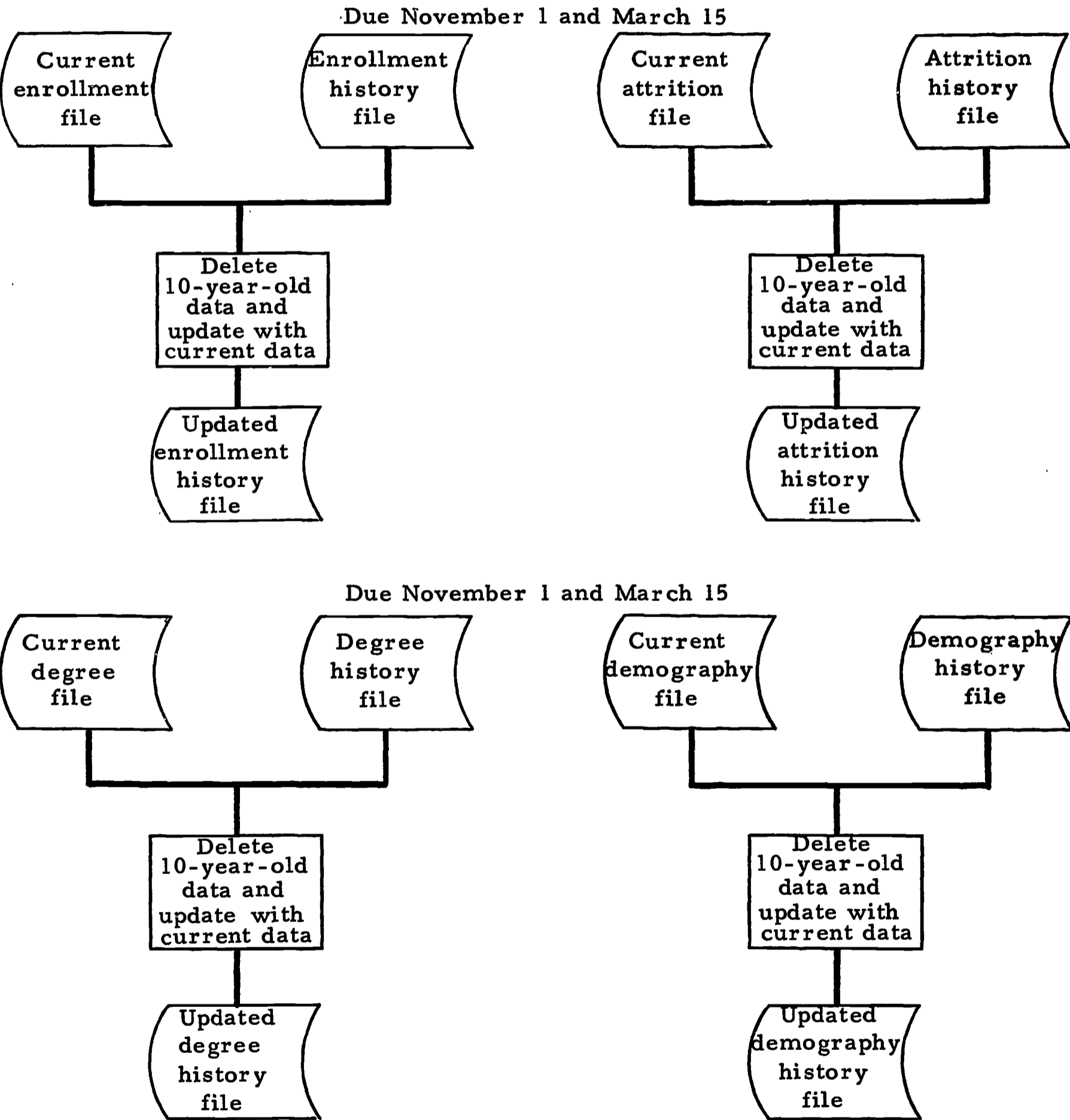


- 2.

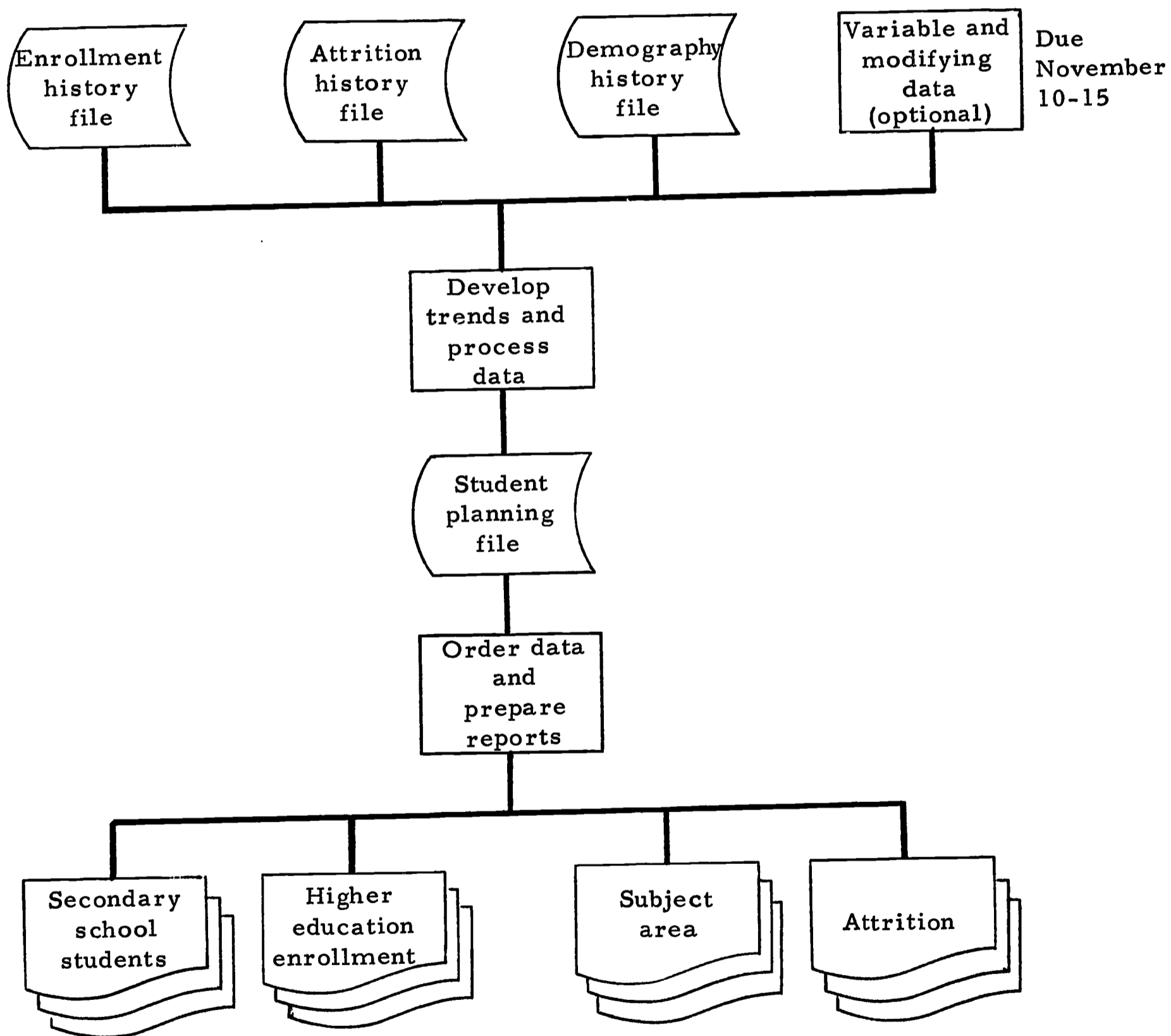


Due March 1  
Processing includes fall and winter quarters

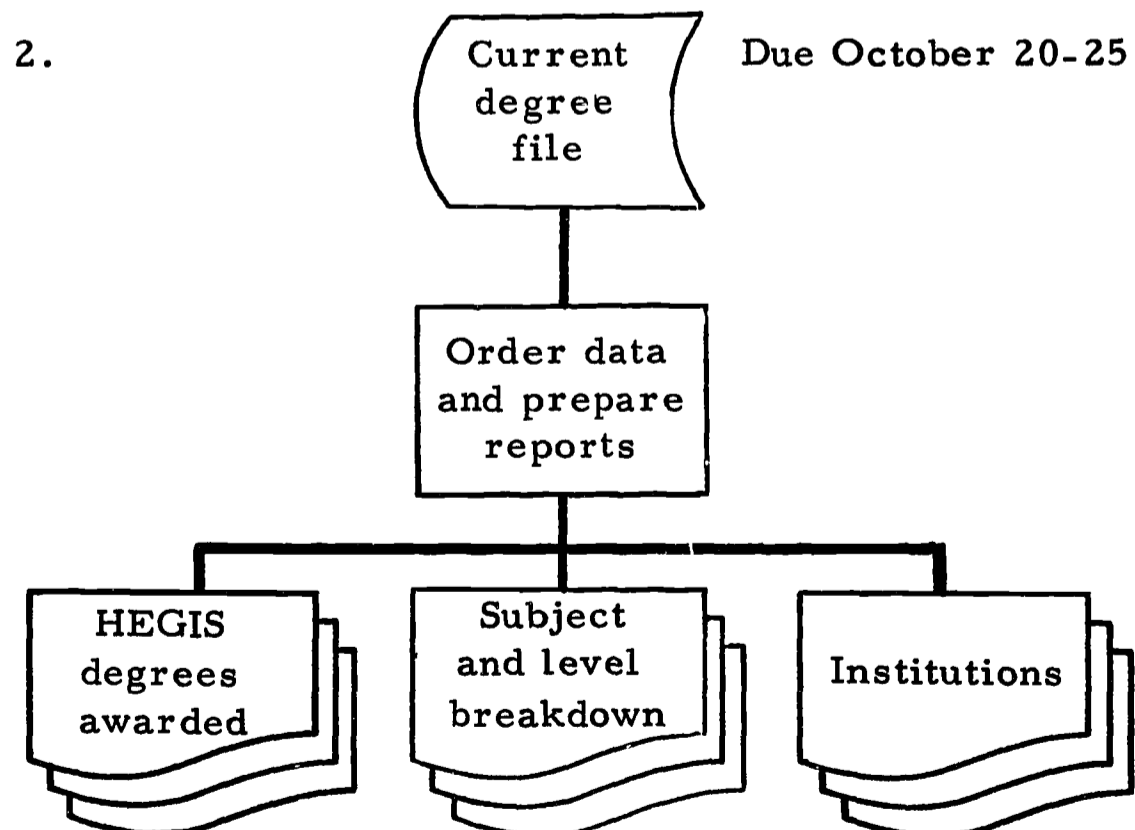
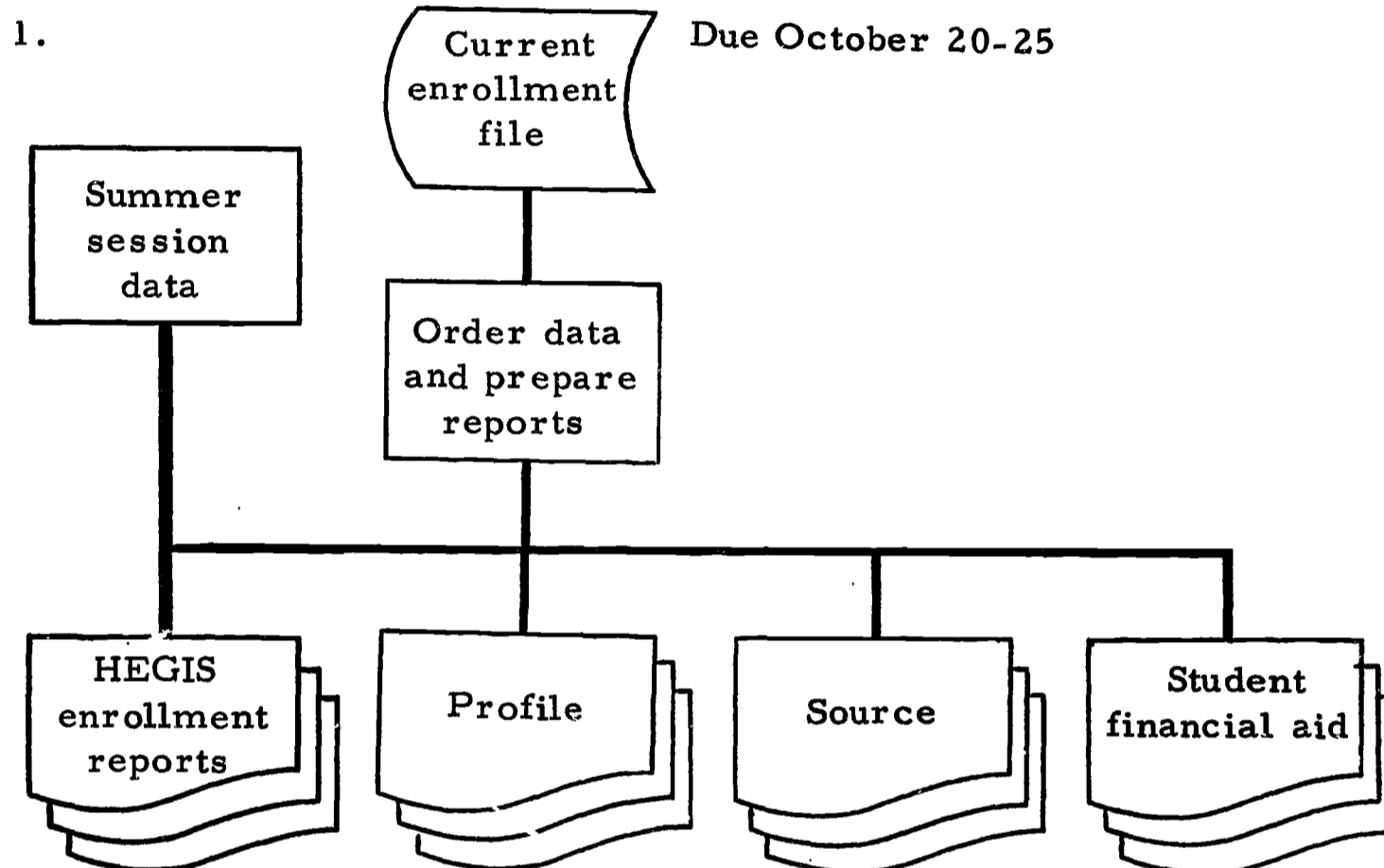
MISSOURI HIGHER EDUCATION  
UPDATING STUDENT ENROLLMENT, ATTRITION,  
DEGREE OR DEMOGRAPHY HISTORY FILES



MISSOURI HIGHER EDUCATION  
PROCESSING PLANNING REPORTS



MISSOURI HIGHER EDUCATION  
PROCESSING INFORMATION REPORTS



**B - PLANNING REPORTS FOR  
FUTURE MISSOURI HIGHER EDUCATION**

---

**Exhibit  
Number**

- |                             |   |
|-----------------------------|---|
| II-6                        | Secondary School Students<br>Secondary School Graduates |
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| Subject Area                |   |
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| Attrition                   |   |
| II-13                       | Student Attrition                                       |
| II-14                       | Student Input-Output Summary                            |

**MISSOURI HIGHER EDUCATION**  
**SECONDARY SCHOOL GRADUATES**  
 (Number Of Students)

Originating Area And Grade	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

**Kansas City**

Grade 12  
 Grade 11  
 Grade 10  
 Grade 8  
 Grade 3

**Northern Missouri**

Grade 12  
 Grade 11  
 Grade 10  
 Grade 8  
 Grade 3

**Central Missouri**

Grade 12  
 Grade 11  
 Grade 10  
 Grade 8  
 Grade 3

**St. Louis**

Grade 12  
 Grade 11  
 Grade 10  
 Grade 8  
 Grade 3

Other Available Versions  
 1. Public secondary schools  
 2. Private secondary schools

Originating Area And Grade	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Springfield-Joplin

- Grade 12
- Grade 11
- Grade 10
- Grade 8
- Grade 3

Central Ozark

- Grade 12
- Grade 11
- Grade 10
- Grade 8
- Grade 3

Southeastern Missouri

- Grade 12
- Grade 11
- Grade 10
- Grade 8
- Grade 3

Total Missouri

- Grade 12
- Grade 11
- Grade 10
- Grade 8
- Grade 3

MISSOURI HIGHER EDUCATION

FIRST-TIME FRESHMEN ENROLLMENT, BY LEVEL OF OFFERING  
(Full-Time Students Only)

Level Of Offering	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Junior Colleges

High school graduates entering college

Other first-time freshmen

Subtotal

Four-Year Colleges

High school graduates entering college

Other first-time freshmen

Subtotal

Universities

High school graduates entering college

Other first-time freshman

Subtotal

Other

High school graduates entering college

Other first-time freshmen

Subtotal

Total first-time freshmen in higher education

High school graduates entering college

Other first-time freshmen

Total first-time freshmen

Other Available Versions

1. Part-time students
2. Level of offering and control

MISSOURI HIGHER EDUCATION

FIRST-TIME FRESHMEN ENROLLMENT, BY ORIGINATING AREA  
(Full-Time Students Only)

Originating Area	Past Actual		Current	Projected				
	1958	1963		1969	1970	1971	1973	1978

Kansas City  
 High school graduates entering college  
 Other first-time freshmen  
 Subtotal  
 Northern Missouri  
 High school graduates entering college  
 Other first-time freshmen  
 Subtotal  
 Central Missouri  
 High school graduates entering college  
 Other first-time freshmen  
 Subtotal  
 St. Louis  
 High school graduates entering college  
 Other first-time freshmen  
 Subtotal  
 Springfield-Joplin  
 High school graduates entering college  
 Other first-time freshmen  
 Subtotal

Other Available Versions

1. Part-time freshmen
2. Level of offering and control
3. Counties upon request

Originating Area	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Central Ozark  
High school graduates entering college  
Other first-time freshmen  
Subtotal  
Southeastern Missouri  
High school graduates entering college  
Other first-time freshmen  
Subtotal  
  
Total Missouri  
High school graduates entering college  
Other first-time freshmen  
Total first-time freshmen

# MISSOURI HIGHER EDUCATION

## TOTAL ENROLLMENT, BY LEVEL OF OFFERING AND CONTROL (Number Of Students)

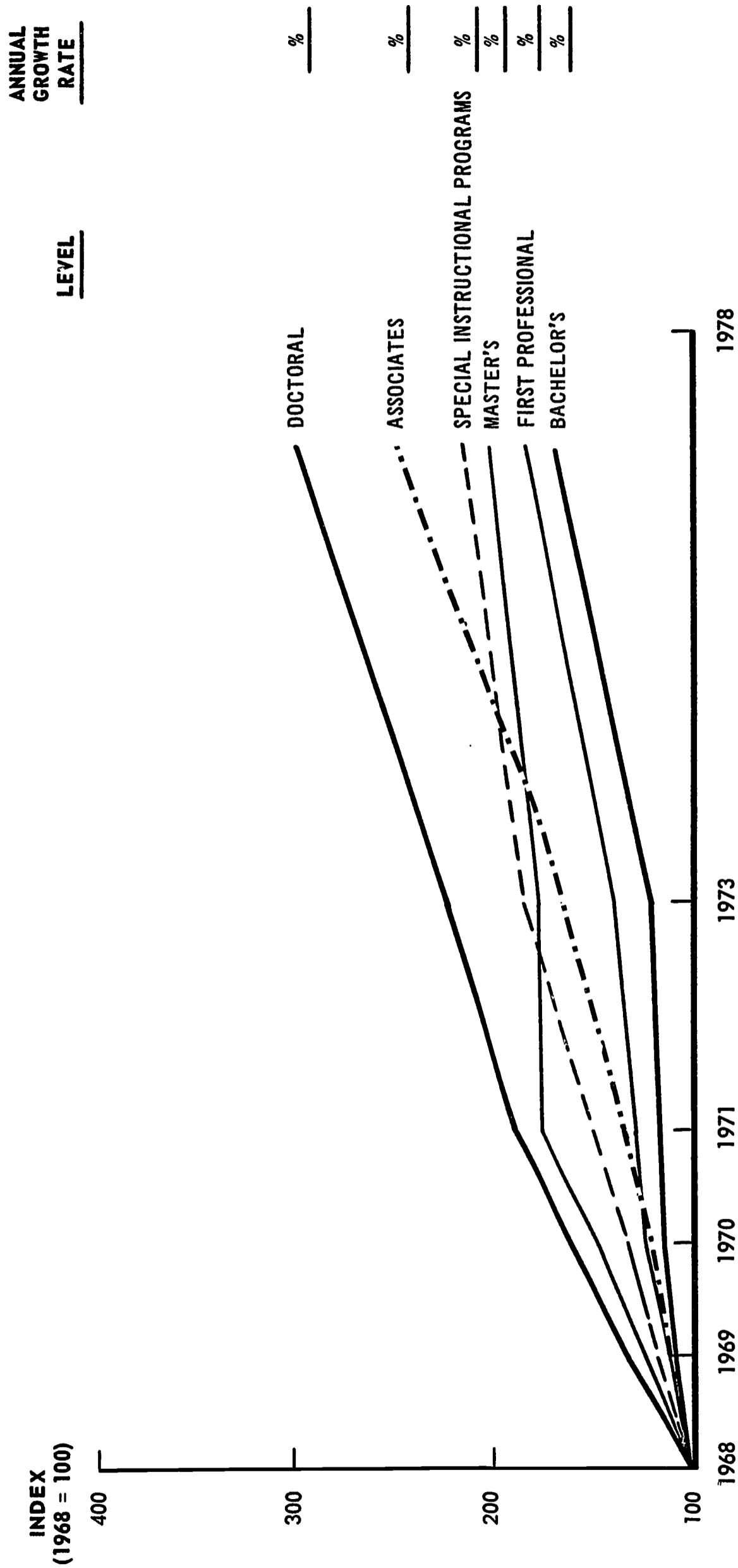
Level Of Offering And Control	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978
Public								
Full time								
Junior colleges								
State colleges								
University								
Other								
Subtotal								
Part time								
Junior colleges								
State colleges								
University								
Other								
Subtotal								
Full-time equivalents								
Junior colleges								
State colleges								
University								
Other								
Subtotal								

Other Available Versions  
 1. Per cent of students  
 2. Program level

Level Of Offering And Control	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

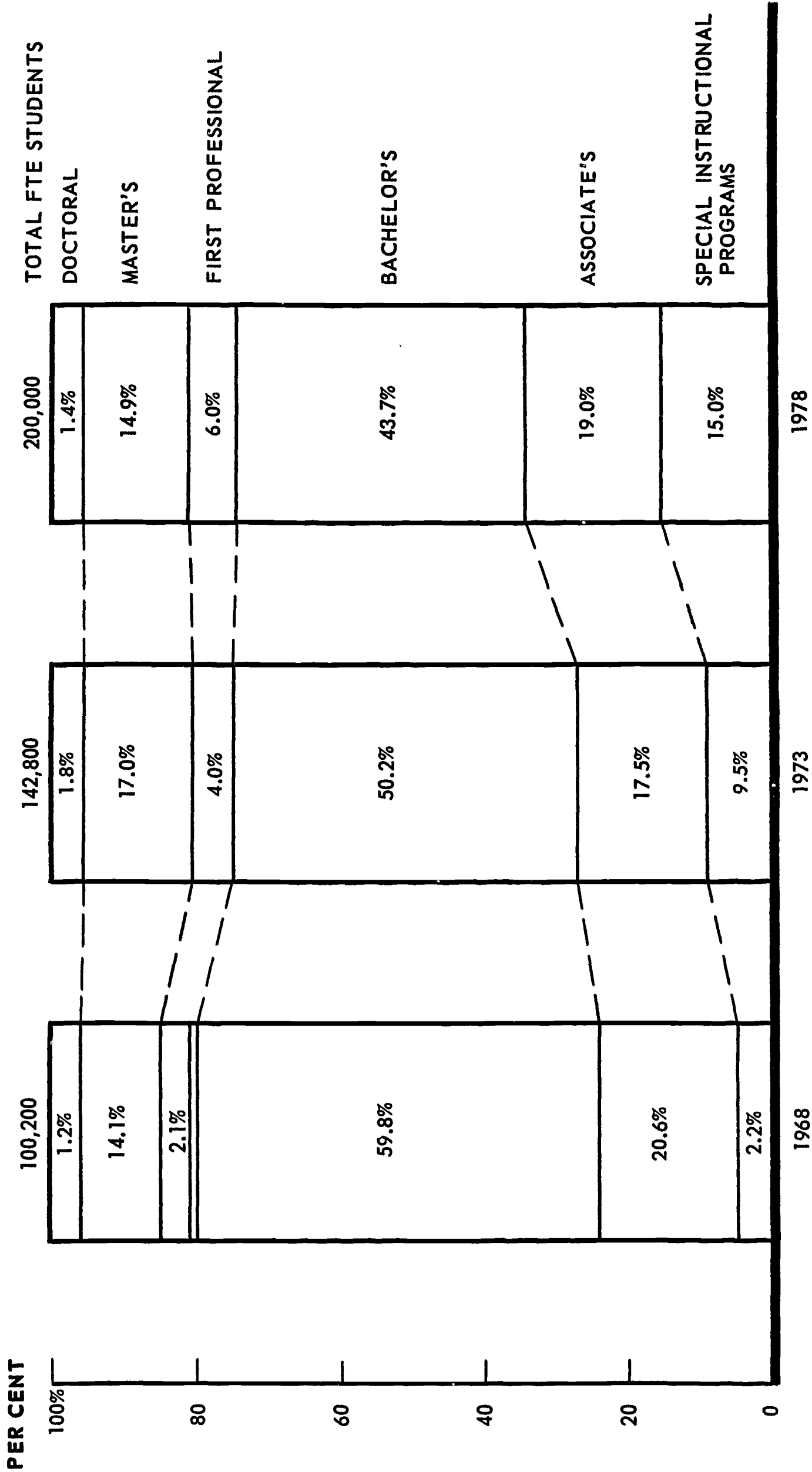
Private								
Full time								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Part time								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Full-time equivalents								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Total Public And Private								
Full time								
Part time								
Full-time equivalents								

MISSOURI HIGHER EDUCATION  
 PROJECTED INCREASE IN FTE STUDENTS, BY PROGRAM LEVEL  
 SELECTED YEARS, 1968 THROUGH 1978  
 (YEARS ENDING AUGUST 31)



Note: Trend lines are illustrative only; they were not derived from actual data.

MISSOURI HIGHER EDUCATION  
PERCENTAGE OF TOTAL FTE STUDENTS, BY PROGRAM LEVEL  
(YEARS ENDING AUGUST 31)



Note: Data entries and graphs are illustrative only; they were not derived from actual data.

## MISSOURI HIGHER EDUCATION

ENROLLMENT, BY SUBJECT AREA  
(Number Of Students)

Subject Area	Office Of Education Code	Past Actual		Current	Projected				
		1958	1963		1969	1970	1971	1973	1978
Agriculture	1000								
Architecture	1400								
Biological Sciences	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And Systems									
Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine And Applied Arts	3200								
Folklore	3300								
Foreign Languages And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculums And									
Miscellaneous Fields	8300								

Total Students

Other Available Versions

1. Level of offering and control
2. Program level
3. Fields of study upon request

# MISSOURI HIGHER EDUCATION

## STUDENT ATTRITION (Per Cent Of Enrollment)

Category	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973
1978							

### Transfers

#### Out-of-state public institutions

Junior colleges

State colleges

Universities

#### Out-of-state private institutions

Junior colleges

Four-year colleges

Universities

Subtotal

#### Missouri public institutions

Junior colleges

State colleges

University

Subtotal

#### Missouri private institutions

Junior colleges

Four-year colleges

Universities

Subtotal

Total

Per Cent

Number

### Other Available Versions

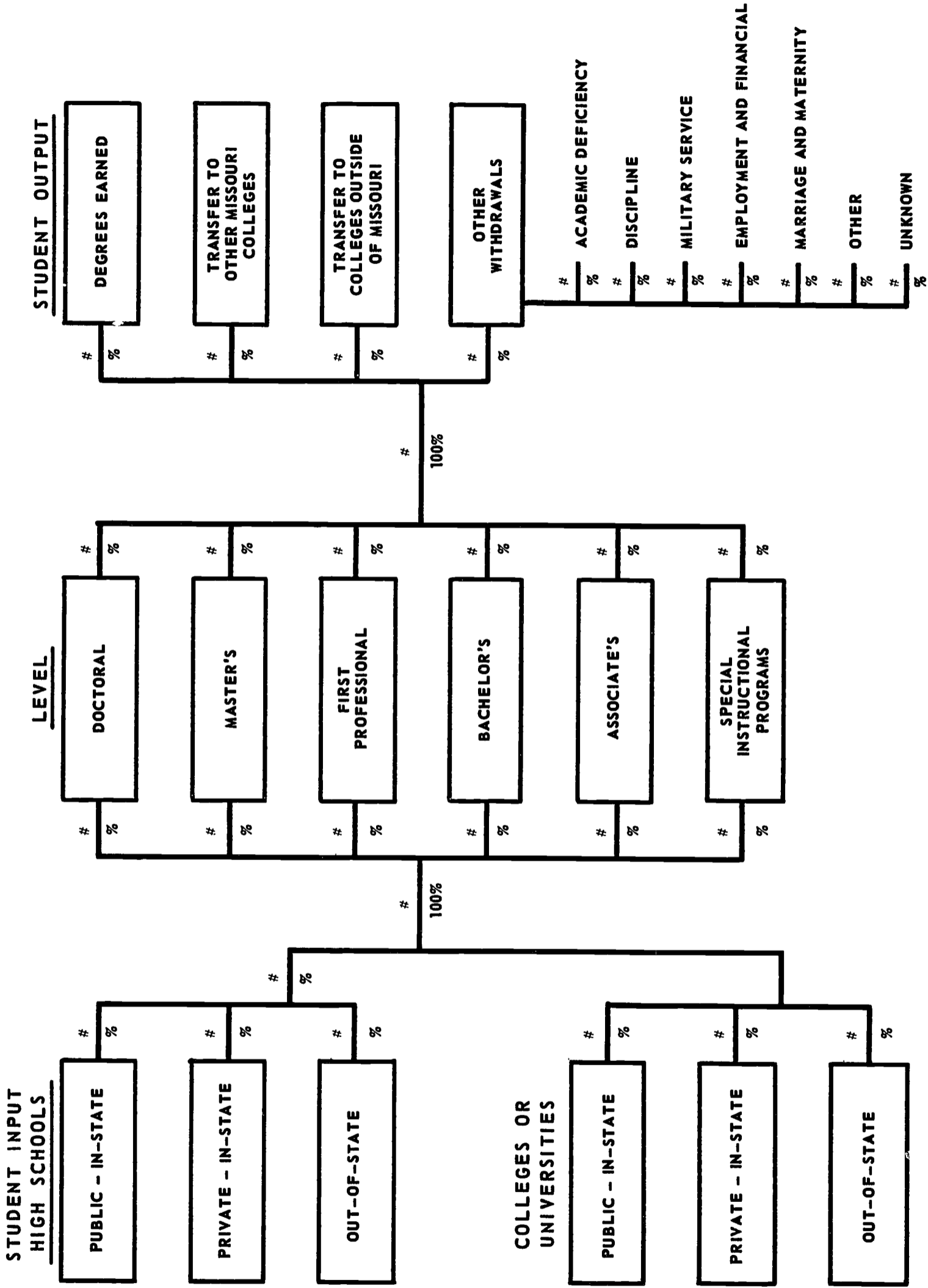
1. Number of students
2. Level of offering and control
3. Individual institutions upon request

Category	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Withdrawals  
Academic deficiency  
Discipline  
Military service  
Employment and financial  
Marriage and maternity  
Other  
Unknown  
Total  
Per Cent  
Number

Total Number Of Full-Time  
Students Enrolled

MISSOURI HIGHER EDUCATION  
STUDENT INPUT-OUTPUT SUMMARY  
(YEAR ENDING AUGUST 31, 1968)



OTHER AVAILABLE VERSIONS  
Level of offering and control

## C - INFORMATION REPORTS ON CURRENT STUDENTS

### Exhibit Number

#### Profile

- II-15      Profile Of Student Attributes
- II-16      Freshmen Achievement And Aptitude Ranking
- II-17      Profile Of Students By Program Level
- II-18      Profile Of Students By Subject Area

#### Source

- II-19      Source Of Students By Level And Control

#### Student Financial Aid

- II-20      Student Financial Aid By Type

# MISSOURI HIGHER EDUCATION

## PROFILE OF STUDENT ATTRIBUTES (Per Cent Of Students)

Category	Public			Private			Total Per Cent	Total Number
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal

Ethnic Group  
 American Indian  
 Negro  
 Oriental  
 Spanish American  
 Other

Total  
 Sex

Male  
 Female  
 Term Basis  
 Semester  
 Trimester  
 Quarter

Total  
 Session

Day

Evening

Enrollment Status

Full Time

Part Time

Total  
 Per Cent  
 Number

### Other Available Versions

1. Number of students
2. Program level
3. Individual public institutions by level of offering
4. Correlation analysis upon request

MISSOURI HIGHER EDUCATION

FRESHMEN ACHIEVEMENT AND APTITUDE RANKING  
(Per Cent Of Students)

Level Of Offering And Control	Decile										Total Per Cent	Total
	Top	2	3	4	5	6	7	8	9	Bottom		

Public

Junior colleges  
High school class rank  
Aptitude test  
State colleges  
High school class rank  
Aptitude test  
University  
High school class rank  
Aptitude test  
Other  
High school class rank  
Aptitude test  
Subtotal

Private

Junior colleges  
High school class rank  
Aptitude test  
Four-year colleges  
High school class rank  
Aptitude test  
Universities  
High school class rank  
Aptitude test  
Other  
High school class rank  
Aptitude test  
Subtotal

Total Students

High School Class Rank  
Aptitude Test

Other Available Version  
Individual public institutions  
by level of offering

# MISSOURI HIGHER EDUCATION

## PROFILE OF STUDENTS BY PROGRAM LEVEL (Number Of Students)

Subject Area	Office Of Education Code	Associate Terminal	Associate Transfer	Bachelor's	First Professional	Master's	Doctoral	Total
Agriculture	1000							
Architecture	1400							
Biological Sciences	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And Systems								
Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Languages And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							
Social Sciences	7700							
Broad General Curriculums And Miscellaneous Fields	8300							

Total Students

### Other Available Versions

1. Level of offering and control
2. Individual institutions  
by level of offering

MISSOURI HIGHER EDUCATION

PROFILE OF STUDENTS BY SUBJECT AREA

(Number Of Students)

Subject Area	Office Of Education Code	Public			Private			Total
		Junior Colleges	State Colleges	Uni- versity	Four-Year Colleges	Univer- sities	Sub- total	
Agriculture	1000							
Architecture	1400							
Biological Sciences	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And Systems								
Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Languages And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							
Social Sciences	7700							
Broad General Curriculums And Miscellaneous Fields	8300							
Total Students								

Other Available Versions  
Individual institutions by  
level of offering

# MISSOURI HIGHER EDUCATION

## SOURCE OF STUDENTS BY LEVEL AND CONTROL (Per Cent Of Students)

Originating Area	Public			Private			Total Per Cent	Total Number
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal
Kansas City								
Northern Missouri								
Central Missouri								
St. Louis								
Springfield-Joplin								
Central Ozark								
Southeastern Missouri								
Subtotal Missouri								
Arkansas								
Illinois								
Iowa								
Kansas								
Kentucky								
Nebraska								
Oklahoma								
Tennessee								
Other states								
Foreign countries								

- Other Available Versions
- Individual public institution by level of offering
  - Program level
  - Freshmen
  - County upon request

Total

Per Cent

Number

MISSOURI HIGHER EDUCATION

STUDENT FINANCIAL AID BY TYPE  
(Hundreds Of Dollars)

Type Of Aid	Public					Private				Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal		

All Students Receiving Aid

Work-study  
Grants  
Loans  
Guaranteed  
Direct  
Government  
Other  
Subtotal  
Other

Total

Total Number Of Students  
Receiving Aid

Per Student Receiving Aid

Work-study  
Grants  
Loans  
Guaranteed  
Direct  
Government  
Other  
Subtotal  
Other  
Total

Other Available Versions

- 1. Individual public institutions by level of offering
- 2. Per cent of students receiving aid
- 3. Per cent of total enrollment

## D - INFORMATION REPORTS ON DEGREES AWARDED

### Exhibit Number

#### Subject And Level Breakdown

- II-21      Degrees Awarded, By Type Of Degree
- II-22      Degrees Awarded, By Type Of Degree And  
            Subject Area

#### Institutions

- II-23      Degrees Awarded, By State Colleges

# MISSOURI HIGHER EDUCATION

## DEGREES AWARDED BY TYPE OF DEGREE (Number Of Students)

Subject Area	Office Of Education Code	Associate Terminal	Associate Transfer	Bachelor's	First Professional	Master's	Doctoral	Total Per Cent	Total Number
Agriculture	1000								
Architecture	1400								
Biological Sciences	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And Systems Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine and Applied Arts	3200								
Folklore	3300								
Foreign Languages And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculums And Miscellaneous Fields	8300								
Total Number Of Degrees									

### Other Available Versions

1. Level of offering and control
2. Individual institutions  
by level of offering

## MISSOURI HIGHER EDUCATION

**DEGREES AWARDED, BY TYPE OF DEGREE AND SUBJECT AREA**  
(Number Of Degrees)

Type Of Degree And Subject Area	Public			Private			Total All Institutions
	Junior Colleges	State Colleges	University	Sub- total	Junior Colleges	Four-Year Colleges	Sub- total

Associate - Terminal							
Engineering related							
Science related							
Health Services							
Other science or							
engineering related							
Nonscience and							
nonengineering related							
Subtotal							
Associate - Transfer							
Arts							
Science							
Other							
Subtotal							
Bachelor's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and							
Literature							
Forestry							
Geography							
Health Professions							

**Other Available Versions**

1. Individual public institution by level of offering
2. Per cent by subject area to total and type of degree
3. Fields of study upon request

Type Of Degree And Subject Area	Public			Private			Total All Institutions
	Junior Colleges	State Colleges	Sub- University total	Junior Colleges	Four-Year Colleges	Sub- total	
Bachelor's (Cont'd)							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
First Professional							
Dentistry							
Medicine							
Veterinary Medicine							
Law							
Theology							
Chiropody or Podiatry							
Optometry							
Osteopathy							
Other							
Subtotal							

Type Of Degree And Subject Area	Public			Private			Total All Institutions	
	Junior Colleges	State Colleges	University	Sub- total	Junior Colleges	Four-Year Colleges		Universities
Master's								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and								
Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and								
Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums								
and miscellaneous fields								
Subtotal								

Type Of Degree And Subject Area	Public			Private			Total All Institutions
	Junior Colleges	State Colleges	University	Sub- total	Junior Colleges	Four-Year Colleges	
Doctoral							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and							
Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and							
Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
Total All Degrees							

MISSOURI HIGHER EDUCATION

DEGREES AWARDED BY STATE COLLEGES  
(Number Of Degrees)

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
-----------------------------------	---------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-------

Associate - Terminal
Engineering related
Science related
Health Services
Other science or engineering related
Nonscience and nonengineering related
Subtotal
Associate - Transfer
Arts
Science
Other
Subtotal
Bachelor's
Agriculture
Architecture
Biological Sciences
Business and Commerce
City Planning
Computer Science and Systems Analysis
Education
Engineering
English and Journalism
Fine and Applied Arts
Folklore
Foreign Languages and Literature
Forestry
Geography
Health Professions

- Other Available Versions
1. Public university campuses

2. Public junior colleges

3. Private institutions by level of offering

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
-----------------------------------	---------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-------

Bachelor's (Cont'd)

Home Economics

Law

Library Science

Mathematical subjects

Philosophy

Physical sciences

Psychology

Records Management

Religion

Social Sciences

Broad general curriculums  
and miscellaneous fields

Subtotal

First Professional

Dentistry

Medicine

Veterinary Medicine

Law

Theology

Chiropody or Podiatry

Optometry

Osteopathy

Other

Subtotal

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
-----------------------------------	---------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-------

Master's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
-----------------------------------	---------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-------

Doctoral							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
Total All Degrees							

## E - RECORD LAYOUTS

### Exhibit Number

II-24      Enrollment Record

II-25      Student Attrition Record

MISSOURI HIGHER EDUCATION

ENROLLMENT RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Enrollment record	01
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19	Credit status	Enrolled	1
		Auditor	2
		Other	3
20	Sex	Male	M
		Female	F
21-22	Year of birth	Last two digits of year of birth	
23	Ethnic group	American Indian	2
		Negro	4
		Oriental	6
		Spanish American	7
		Other	8
24	Type of high school	Out-of-State public	4
		Out-of-State private	
		Religious affiliation	5
		Other	6
		In-State public	7
		In-State private	
		Religious affiliated	8
		Other	9
25-27	County of high school graduation		

<u>Punched Card Column</u>	<u>Item</u>	<u>Date</u>	<u>Code Number</u>
28-30	State and country	100 series codes will represent states; 200 through 800 series codes will be used for foreign countries	
31-33	Entering date	Month and year entered this institution	
34-35	Program level and class	Undergraduate	
		Freshman or first year of junior college - first semester	02
		Freshman or first year of junior college - second semester	03
		Sophomore or second year of junior college - first semester	04
		Sophomore or second year of junior college - second semester	05
		Junior - first semester	06
		Junior - second semester	07
		Senior - first semester	08
		Senior - second semester	09
		First professional	21
		Master's	31
		Doctoral	
		First year	41
		Advanced	42
		Thesis	43
		Other postgraduate	51
		Adult education	61
		Correspondence	71
		Other	81

<u>Punched Card Number</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
36-37	State professional classifica- tion	Primary professional First year Second year Third year Fourth year Advanced professional First year Second year Third year Fourth year	11 12 13 14  21 22 23 24
38	Enrollment status	Full time Part time	1 5
39	Resident/extension	Resident Live in institutionally owned or operated housing Live in other housing away from home Live at home and commute Extension	2   4  6  8
40	Marital status	Single Married	S M
41-43	High school rank	Decide ranking	
44-46	Student aptitude test score		
47	Type of student aptitude test	Scholastic Aptitude Test American College Testing Program	1 2
48-51	Student's major field of study/curriculum	Office of Education item number	
52	First time field of study/ curriculum offered	Office of Education item number	
53	College or university transferred from	In-State public In-State private Religious affiliation Other Out-of-State public Out-of-State private Religious affiliation Other	1  2 3 6 7 8

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
54	College or university trans - ferred from by level of offering	Junior college Four-year college University Special school (seminary)	5 6 7 8
55-59	College or university transferred from code	Federal educational institution code	
60	Term basis	Semester Quarter Trimester Other	2 4 6 8
61-62	Credit-hours		
63-64	Contact-hours		
65-67	Student work assignments	Actual earnings during the previous term - dollars to the nearest 100	
68	Type of loan	National Defense Education Loan Federal Low-Interest Student Loan Health Professions Student Loan United Student Assistance Fund Other	1  2 3 4 5
69-70	Amount of loan	Dollars to the nearest 100	
71	Type of grant	Codes will be established as required	
72-73	Amount of grant	Dollars to the nearest 100	

21

MISSOURI HIGHER EDUCATION  
STUDENT ATTRITION RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Attrition record	02
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19	Credit status	Enrolled	1
		Auditor	2
		Other	3
20	Sex	Male	M
		Female	F
21-22	Year of birth	Last two digits of year of birth	
23	Ethnic group	American Indian	2
		Negro	4
		Oriental	6
		Spanish American	7
		Other	8
24	Type of high school	Out-of-State public	4
		Out-of-State private	
		Religious affiliation	5
		Other	6
		In-State public	7
		In-State private	
		Religious affiliation	8
		Other	9
25-27	County of high school graduation		

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
28-30	State and country	100 series codes will represent states; 200 through 800 series codes will be used for foreign countries	
31-33	Entering date	Month and year entered this institution	
34-35	Program level and class	Undergraduate	
		Freshman or first year of junior college - first semester	02
		Freshman or first year of junior college - second semester	03
		Sophomore or second year of junior college - first semester	04
		Sophomore or second year of junior college - second semester	05
		Junior - first semester	06
		Junior - second semester	07
		Senior - first semester	08
		Senior - second semester	09
		First professional	21
		Master's	31
		Doctoral	
		First year	41
		Advanced	42
		Thesis	43
		Other postgraduate	51
		Adult education	61
		Correspondence	71
		Other	81

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
36-37	State professional classifica- tion	Primary professional First year Second year Third year Fourth year Advanced professional First year Second year Third year Fourth year	11 12 13 14  21 22 23 24
38	Enrollment status	Full time Part time	1 5
39	Resident/extension	Resident Live in institutionally owned or operated housing Live in other housing away from home Live at home and commute Extension	2   4  6  8
40	Marital status	Single Married	S M
41-43	High school average		
44-46	Student aptitude test score		
47	Type of student aptitude test	Scholastic Aptitude Test American College Testing Program	1 2
48-51	Field of study/curriculum	Office of Education item number	6
52	First time course offered		
53	College or university transferred from	In-State public In-State private Religious affiliation Other Out-of-State public Out-of-State private Religious affiliation Other	1  2 3 6  7 8

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
54	College or university	Junior college	7
	transferred from,by level	Four-year college	8
	of offering	University	9
55	Term basis	Semester	2
		Quarter	4
		Trimester	6
56-57	Attrition code	Transfer	02
		Academic deficiencies	03
		Discipline	04
		Military service	05
		Employment and financial	06
		Marriage or maternity	08
		Other	09
		Unknown	10
58-60	Termination date	Month and year	
61	College or university	In-State public	1
	transferred to,by control	In-State private	
		Religious affiliation	2
		Other	3
		Out-of-State public	6
		Out-of-State private	
		Religious affiliation	7
		Other	8
62	College or university	Junior college	7
	transferred to,by level	Four-year college	8
	of offering	University	9
63-64	Missouri college code		
65-69	Other college code	Federal educational institution code	

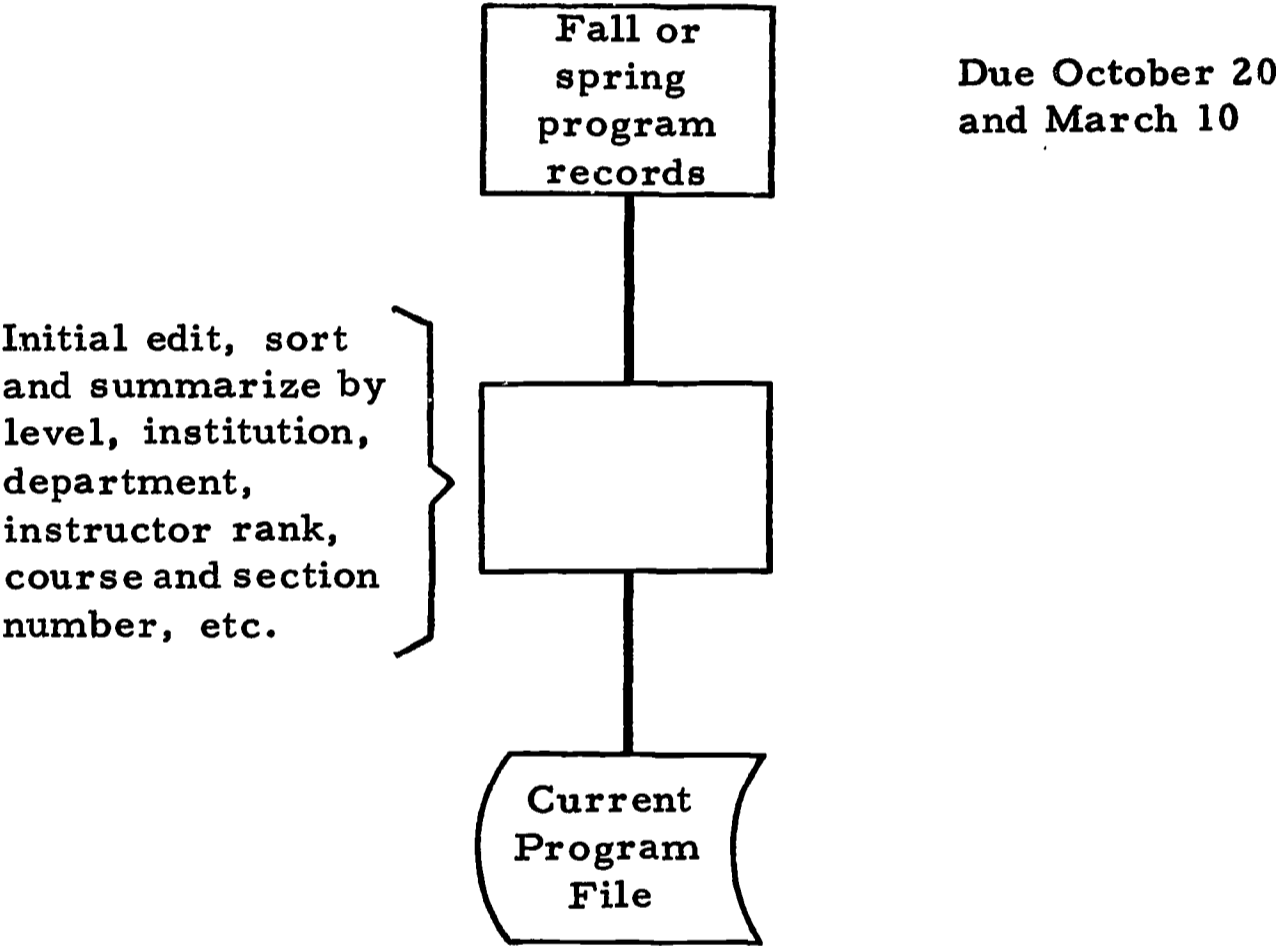
### III - PROGRAM INFORMATION SUBSYSTEM

## A - FLOW CHARTS

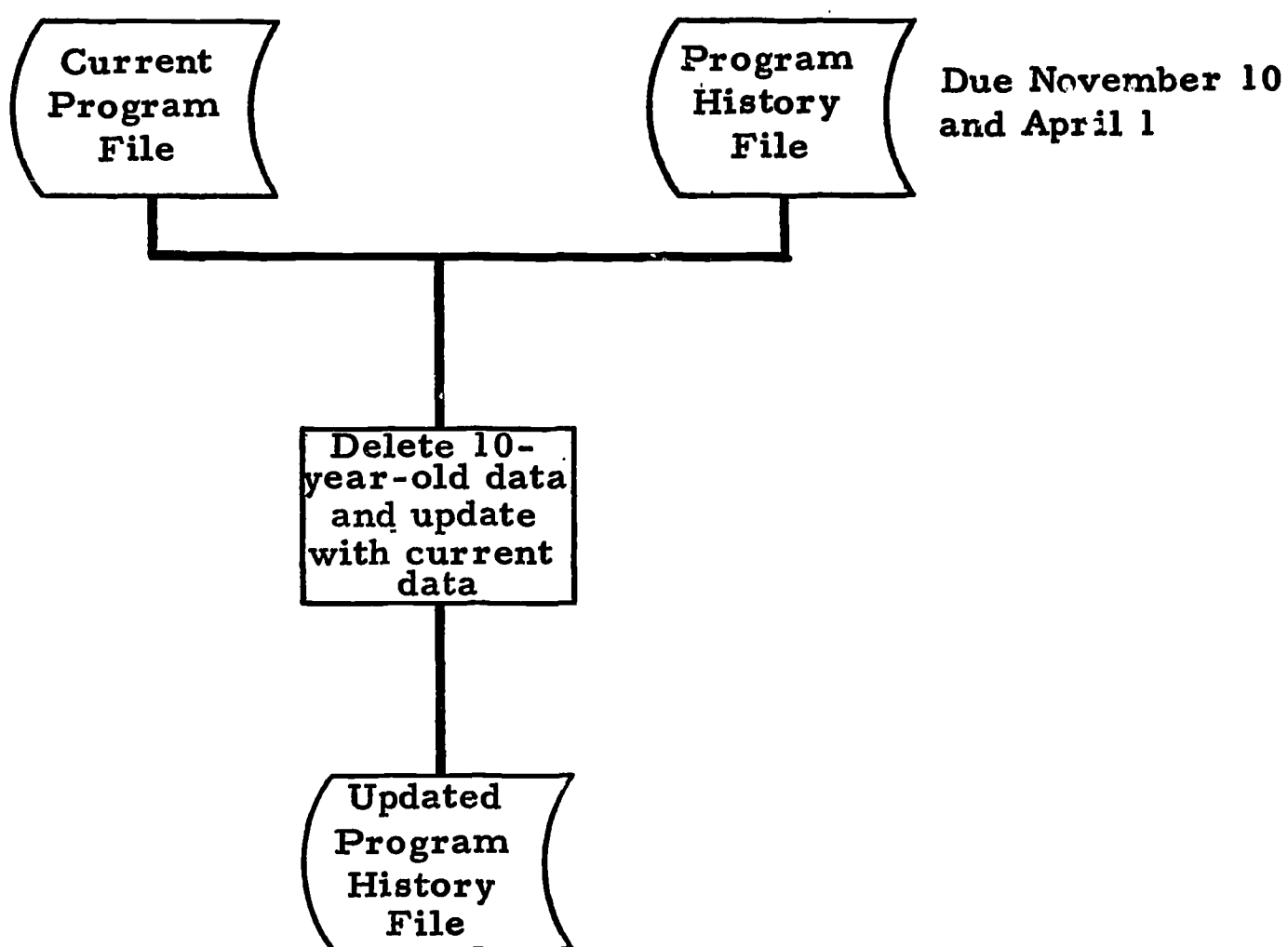
### Exhibit Number

- |       |   |
|-------|---|
| III-1 | Creating Initial Files Or Processing Fall And Spring Program Data |
| III-2 | Updating Program History File                                     |
| III-3 | Processing Planning Reports                                       |
| III-4 | Processing Information Reports                                    |

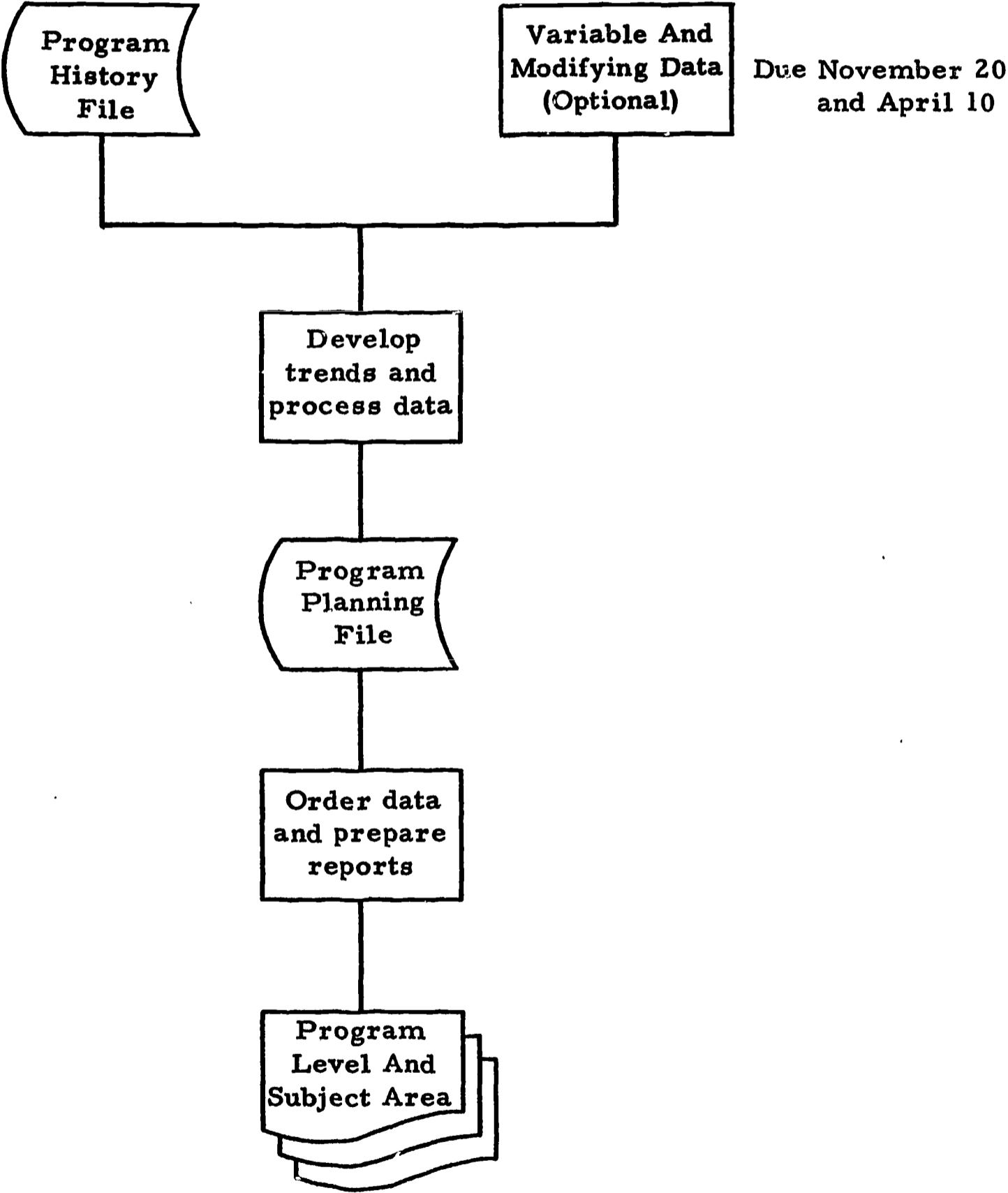
MISSOURI HIGHER EDUCATION  
CREATING INITIAL FILES OR PROCESSING  
FALL AND SPRING PROGRAM DATA



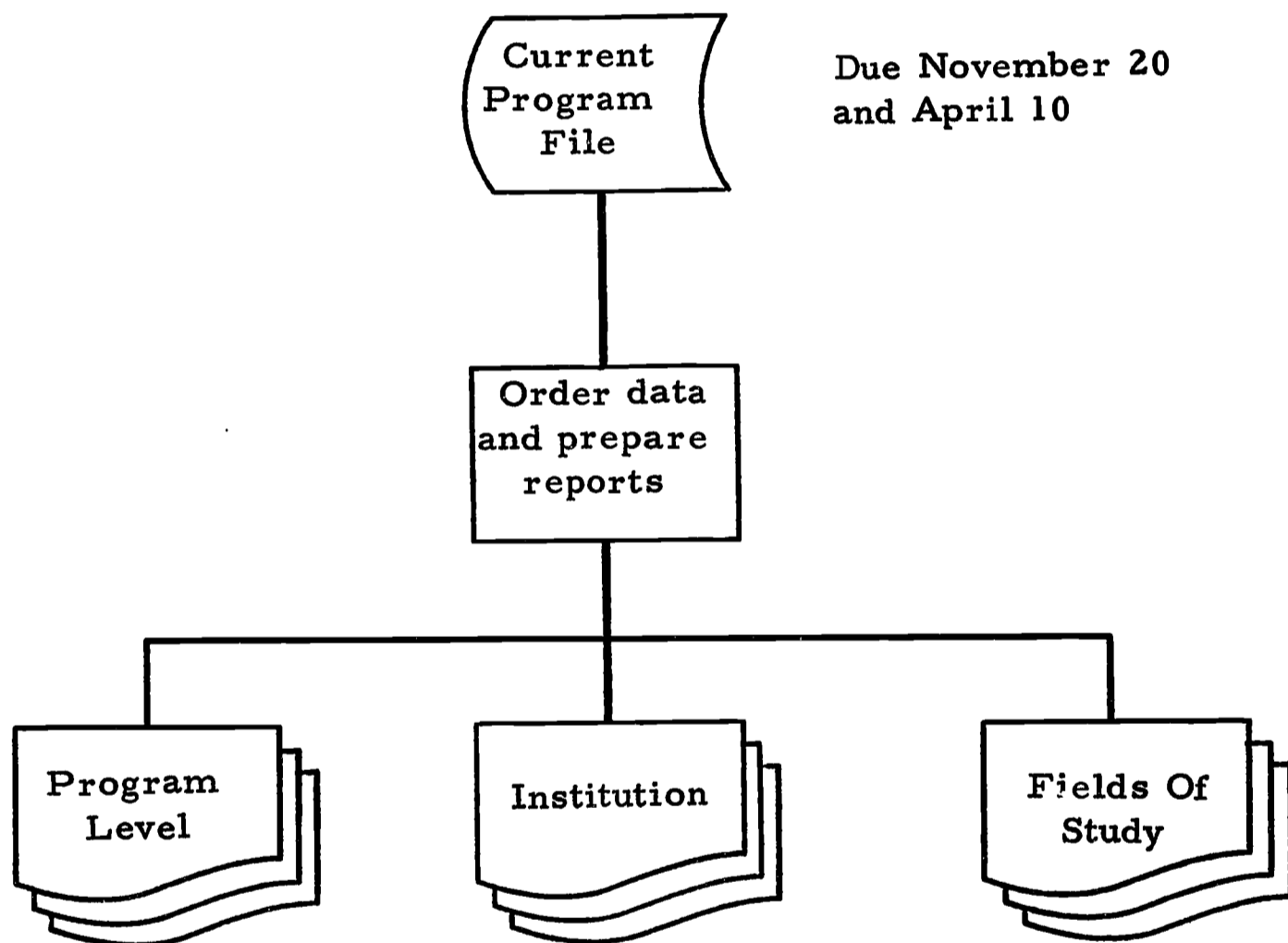
MISSOURI HIGHER EDUCATION  
UPDATING PROGRAM HISTORY FILE



MISSOURI HIGHER EDUCATION  
PROCESSING PLANNING REPORTS



MISSOURI HIGHER EDUCATION  
PROCESSING INFORMATION REPORTS



B - PLANNING REPORTS FOR  
FUTURE MISSOURI HIGHER EDUCATION

Exhibit  
Number

	Program Level And Subject Area
III-5	Courses Offered At The Public University

MISSOURI HIGHER EDUCATION

COURSES OFFERED AT THE PUBLIC UNIVERSITY  
(Total Credit-Hours)

Program Level And Subject Area	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1978

Associate - Terminal  
 Engineering related  
 Science related  
 Health Services  
 Other science or engineering  
 related  
 Nonscience and nonengineering  
 related  
 Subtotal  
 Science  
 Other  
 Subtotal  
 Bachelor's  
 Agriculture  
 Architecture  
 Biological Sciences  
 Business and Commerce  
 City Planning  
 Computer Science and  
 Systems Analysis  
 Education  
 Engineering  
 English and Journalism  
 Fine and Applied Arts  
 Folklore  
 Foreign Languages and  
 Literature  
 Forestry  
 Geography  
 Health Professions

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level

Program Level And Subject Area	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973
Bachelor's (Cont'd)							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
First Professional							
Dentistry							
Medicine							
Veterinary Medicine							
Law							
Theology							
Chiropody or Podiatry							
Optometry							
Osteopathy							
Other							
Subtotal							

Program Level And Subject Area	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973

Master's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and							
Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and							
Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums							
and miscellaneous fields							
Subtotal							

Program Level And Subject Area	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978
Doctoral								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
Total All Levels								

**C - INFORMATION REPORTS ON  
CURRENT SUBJECT AREAS**

---

**Exhibit  
Number**

- |       |  |
|-------|--|
|       | <b>Program Level</b>   |
| III-6 | Courses Offered By Program Level At The<br>Public University   |
|       | <b>Institution</b>   |
| III-7 | Courses Offered By Program Level And Subject<br>Area           |
|       | <b>Fields Of Study</b>   |
| III-8 | Courses Offered By Fields Of Study At The<br>Public University |
| III-9 | Proposed Fields Of Study At The Public<br>University           |

## MISSOURI HIGHER EDUCATION

COURSES OFFERED BY PROGRAM LEVEL AT THE PUBLIC UNIVERSITY  
(Total Credit-Hours)

Subject Area	Number	Associate - Terminal	Associate - Transfer	Bachelor's	First Pro- fessional	Master's	Doctoral	Total
Agriculture	1000							
Architecture	1400							
Biological Sciences	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And Systems								
Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Languages And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							
Social Sciences	7700							
Broad General Curriculums And								
Miscellaneous Fields	8300							

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Fields of study upon request

Total All Subject Areas

MISSOURI HIGHER EDUCATION

COURSES OFFERED BY PROGRAM LEVEL AND SUBJECT AREA  
(Total Credit -Hours)

Program Level And Subject Area	University Of Missouri				St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis			
Associate - Terminal							
Engineering related							
Science related							
Health Services							
Other science or engineering related							
Nonscience and nonengineering related							
Subtotal							
Associate - Transfer							
Arts							
Science							
Other							
Subtotal							
Bachelor's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions upon request
4. Fields of study upon request

Program Level And Subject Area	University Of Missouri				St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis			

Bachelor's (Cont'd)							
Home Economics							
Law							
Library Science							
Mathematical Subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
First Professional							
Dentistry							
Medicine							
Veterinary Medicine							
Law							
Theology							
Chiropody or Podiatry							
Optometry							
Osteopathy							
Other							
Subtotal							
Master's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							

Program Level And Subject Area	University Of Missouri					St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis	Sub- total			
Master's (Cont'd)								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical Subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
Doctoral								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								

Program Level And Subject Area	University Of Missouri				St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis			
Doctoral (Cont'd)							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical Subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
Total All Program Levels							

## MISSOURI HIGHER EDUCATION

COURSES OFFERED BY FIELDS OF STUDY AT THE PUBLIC UNIVERSITY  
(Total Credit-Hours)

Program Level, Subject Area And Field Of Study	Item Number	University Of Missouri			Total
		Columbia	Rolla	Kansas City	
Associate - Terminal					
Health Professions	4400				
Medical Technology	4413				
Nursing	4419				
Associate - Transfer					
Biological Sciences	1700				
General Botany	1707				
Bachelor's					
Computer Science and Systems Analysis	2100				
Engineering	2600				
Architectural Engineering	2608				
Electrical Engineering	2632				
Foreign Languages and Literature	3500				
French	3520				
Spanish	3526				
German	3540				

This is an exception report, showing only those fields of study in which courses are being offered, not all possible fields of study

Other Available Versions

Individual public institution by level of offering

MISSOURI HIGHER EDUCATION

PROPOSED FIELDS OF STUDY AT THE PUBLIC UNIVERSITY  
(Total Credit-Hours)

Program Level, Subject Area And Field Of Study	Item Number	University Of Missouri			Total
		Columbia	Rolla	Kansas City	
Associate - Terminal Engineering	2600				
General and other nonspecialized engineering	2647				
Associate - Transfer Biological Sciences	1700				
General Botany	1707				
Bachelor's Computer Science and Systems Analysis	2100				
Engineering	2600				
Environmental Health and Sanitary Engineering	2646				
Naval Architecture	2674				
Foreign Languages and Literature	3500				
French	3520				
Portuguese	3524				
Chinese	3564				

This is an exception report, showing only  
proposed fields of study, not those  
currently being offered.

Other Available Versions  
Individual public institution by level of offering

.....

New Majors And Degrees Planned

## D - RECORD LAYOUTS

Exhibit  
Number

III-10      Program Record

MISSOURI HIGHER EDUCATION

PROGRAM RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Program record	41
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-20	Faculty rank	See Exhibit V-19	
21-24	Field of study/ curriculum	Office of Education item number	
25-26	Program level and class	Undergraduate	
		Freshman or first year of junior college	01
		Sophomore or second year of junior college	02
		Junior	03
		Senior	04
		First professional	11
		Master's	21
		Doctoral	
		First year	31
		Advanced	32
		Thesis	33
		Other postgraduate	41
		Adult education	51
		Correspondence	61
		Other	71

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
27-28	State professional classification	Primary professional First year Second year Third year Fourth year Advanced professional First year Second year Third year Fourth year	11 12 13 14  21 22 23 24
29-34	Course number	Institution's own course number	
35-44	Course title	Institution's abbreviated course title	
45-46	Section number	Institution's section number	
47-49	Building code		
50-54	Room number		
55	Course type	Lecture Laboratory Independent study	1 2 3
56-57	Credit-hours		
58-59	Weekly contact-hours		
60-62	Section size	Number of students in section	
63	First time field of study or curriculum offered	No Yes	1 2
64	First time course offered	No Yes	1 2

#### IV - FINANCIAL INFORMATION SUBSYSTEM

#### IV - FINANCIAL INFORMATION SUBSYSTEM

This chapter presents the financial information subsystem. Included in this subsystem are budget information and other financial data. Budget analyses are included to enable the Commission to carry out its responsibility for reviewing the budget recommendations of the State's higher education institutions.

Income and expenditures are measured in dollars per full-time-equivalent student to provide financial trends and comparisons between institutions of different sizes. Total State aid and student charges in higher education are compared among institutions within Missouri and in neighboring states.

The budget input will be provided by State higher education institutions. Income and expenditures data will be taken from HEGIS reports submitted by the institutions. Survey data from other states will be collected by the Commission.

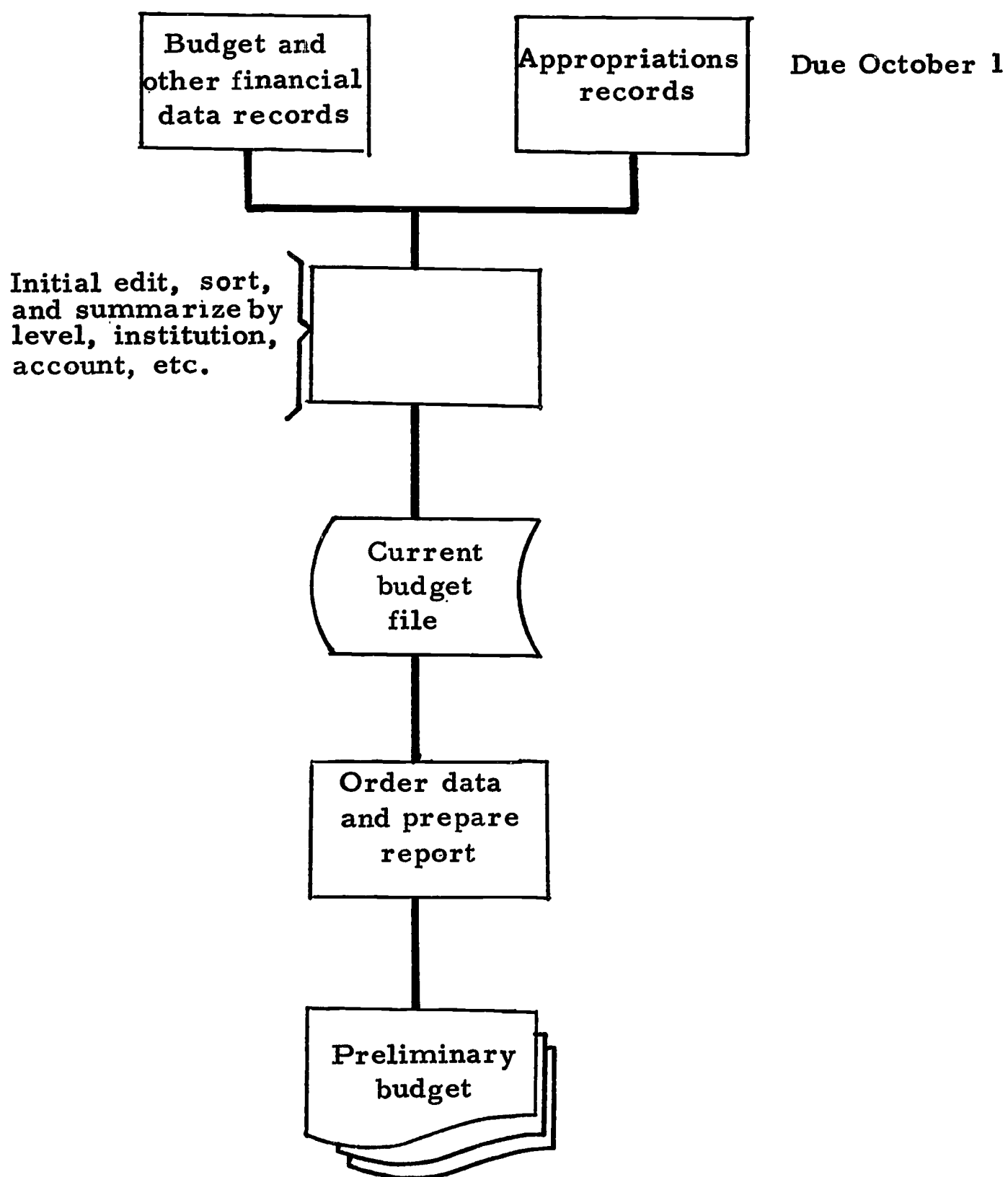
This chapter includes flow charts, planning and information report formats, and input record layouts.

## A - FLOW CHARTS

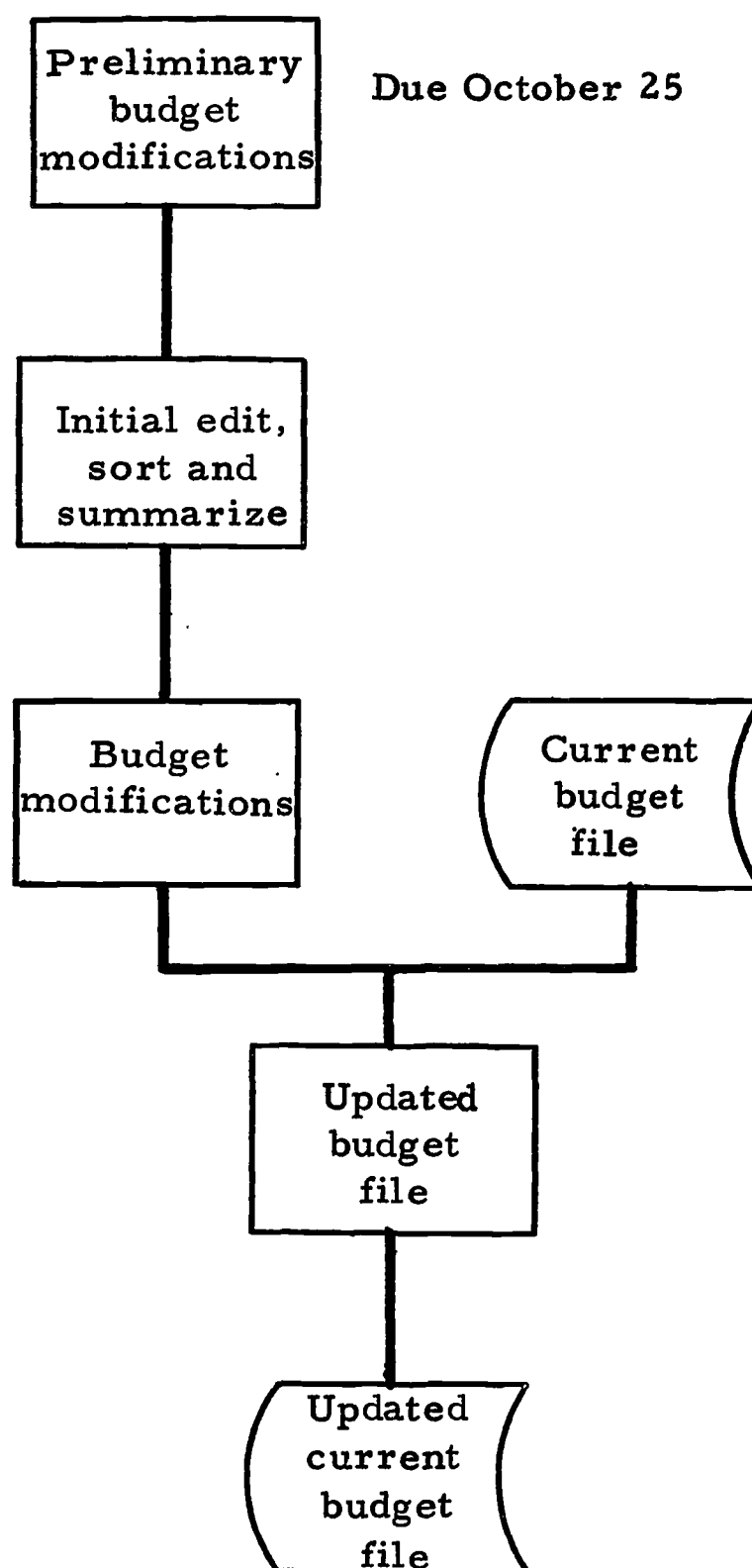
### Exhibit Number

- |      |   |
|------|---|
| IV-1 | Creating Current Budget File                                |
| IV-2 | Updating Current Budget File                                |
| IV-3 | Creating Initial Files Or Processing Fall Financial<br>Data |
| IV-4 | Updating Financial History File                             |
| IV-5 | Processing Planning Reports                                 |
| IV-6 | Processing Information Reports                              |

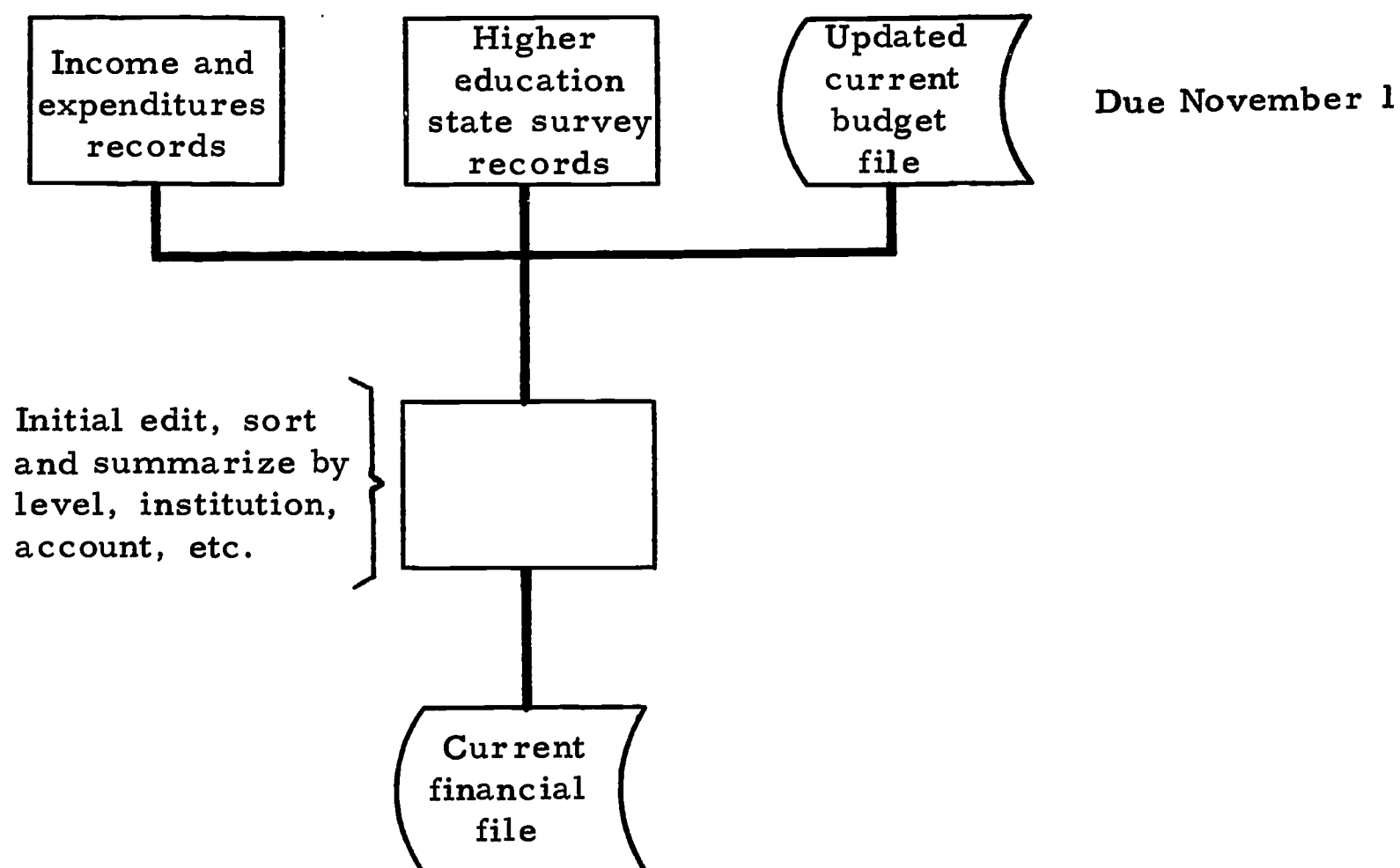
MISSOURI HIGHER EDUCATION  
CREATING CURRENT BUDGET FILE



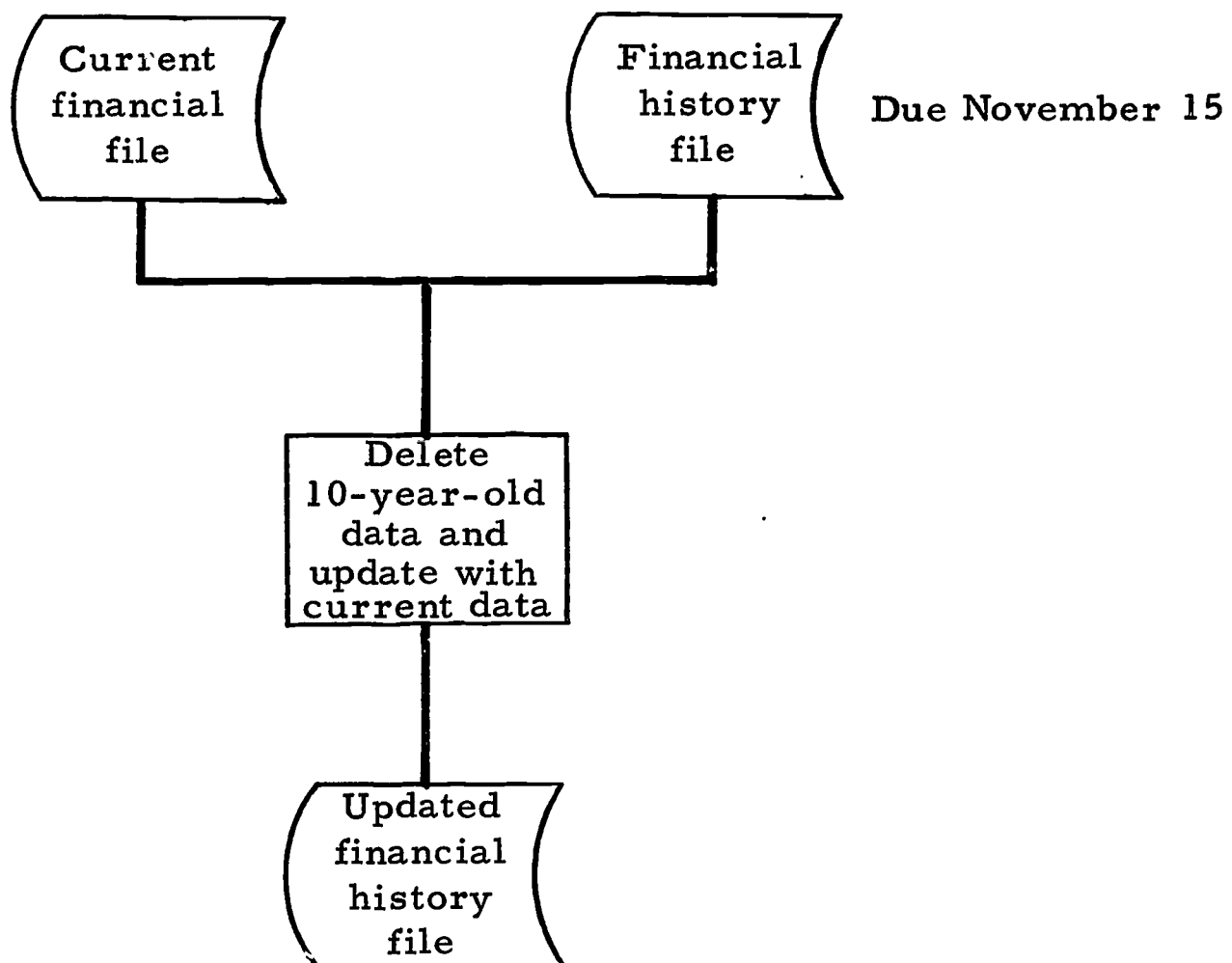
MISSOURI HIGHER EDUCATION  
UPDATING CURRENT BUDGET FILE



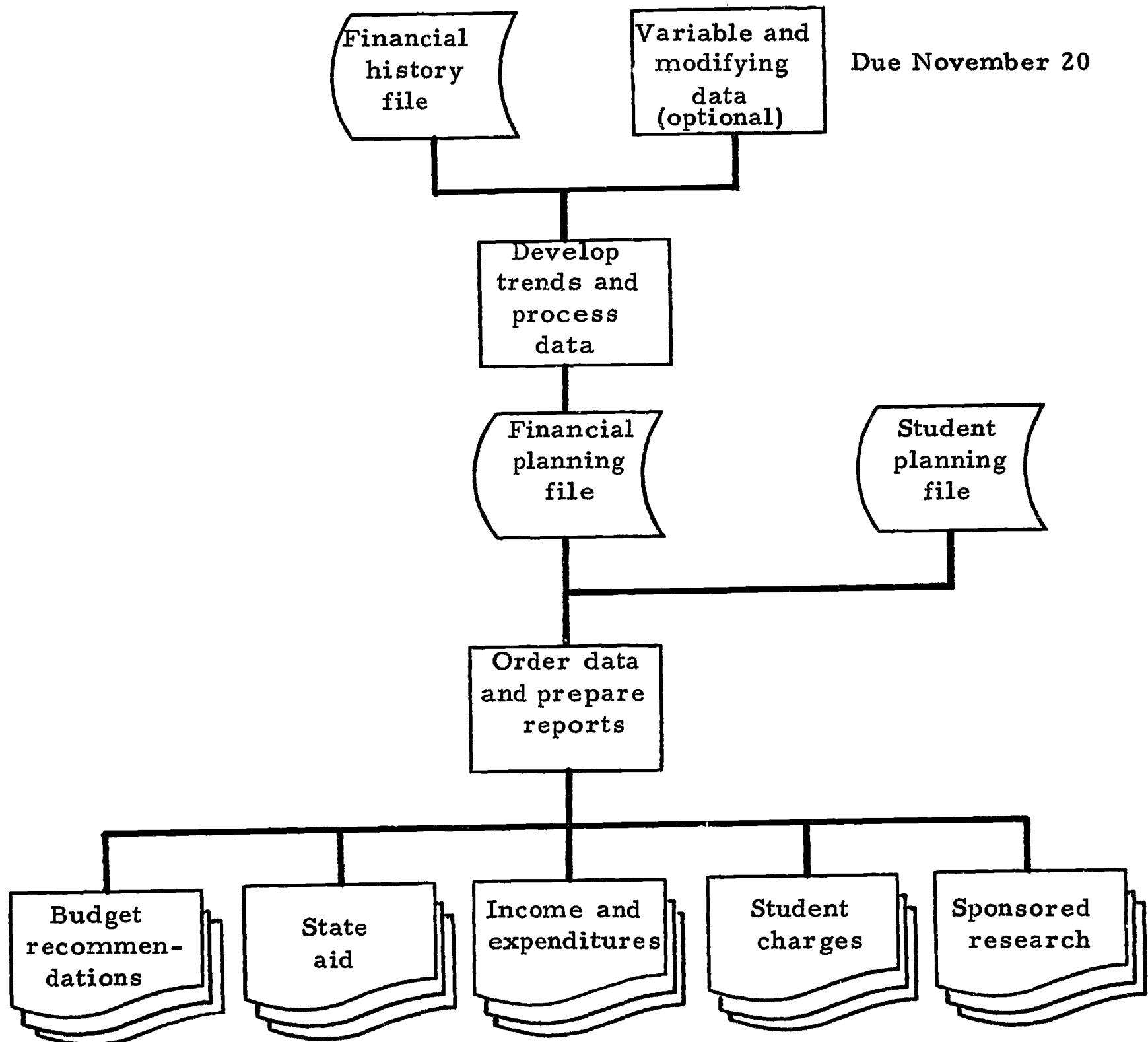
MISSOURI HIGHER EDUCATION  
CREATING INITIAL FILES OR  
PROCESSING FALL FINANCIAL DATA



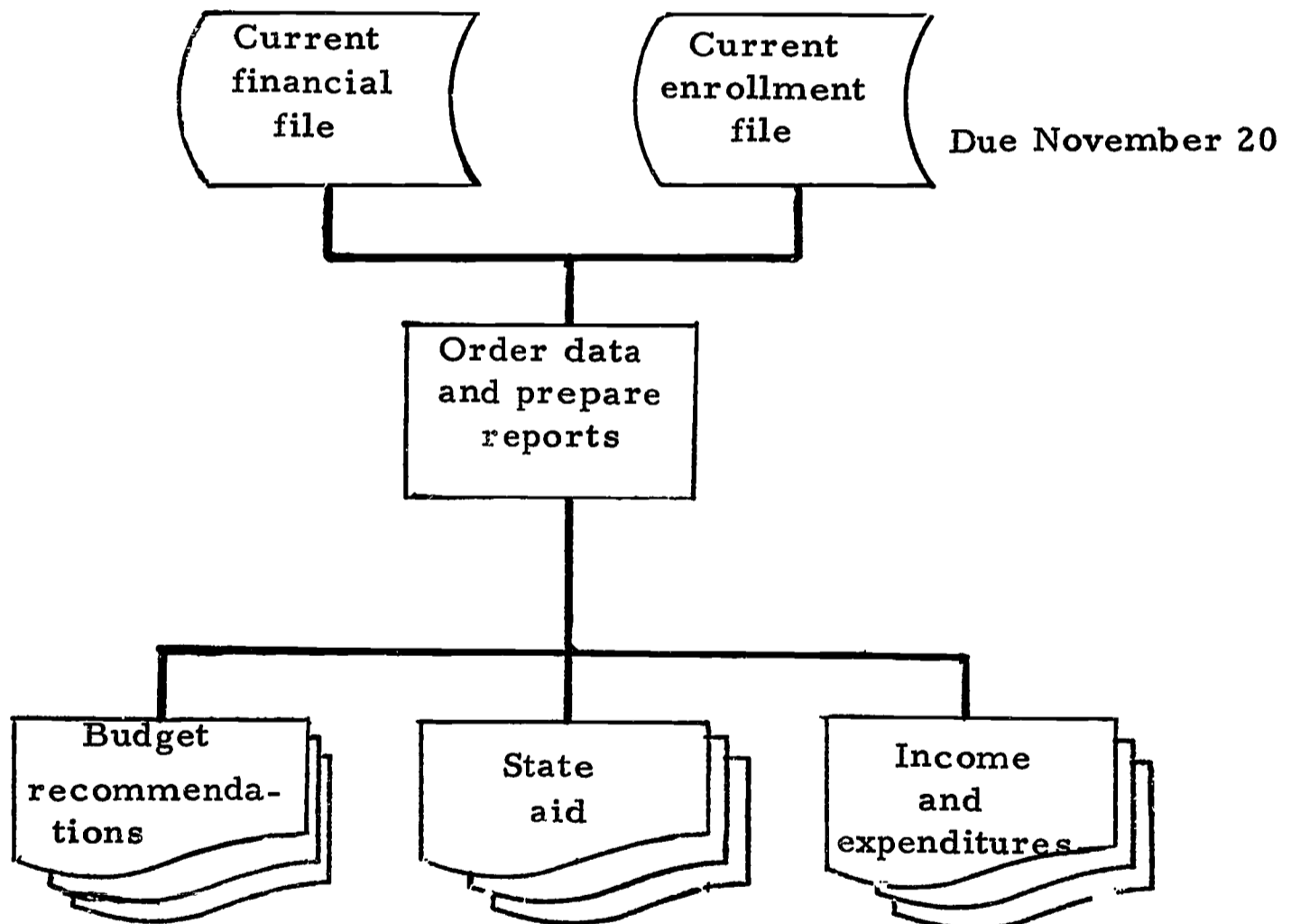
MISSOURI HIGHER EDUCATION  
UPDATING FINANCIAL HISTORY FILE



MISSOURI HIGHER EDUCATION  
PROCESSING PLANNING REPORTS



MISSOURI HIGHER EDUCATION  
PROCESSING INFORMATION REPORTS



**B - PLANNING REPORTS FOR  
FUTURE MISSOURI HIGHER EDUCATION**

**Exhibit  
Number**

- |              |   |
|--------------|---|
|              | <b>Budget Recommendations</b>                           |
| <b>IV-7</b>  | <b>Budget Recommendations At The Public University</b>  |
|              | <b>State Aid</b>  |
| <b>IV-8</b>  | <b>State Aid To The Public University</b>               |
|              | <b>Income And Expenditures</b>                          |
| <b>IV-9</b>  | <b>Income And Expenditures At The Public University</b> |
|              | <b>Student Charges</b>                                  |
| <b>IV-10</b> | <b>Student Charges At Public Institutions</b>           |
|              | <b>Sponsored Research</b>                               |
| <b>IV-11</b> | <b>Sponsored Research</b>                               |

MISSOURI HIGHER EDUCATION

BUDGET RECOMMENDATIONS AT THE PUBLIC UNIVERSITY  
(Thousands Of Dollars)

Category	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973

Budget

Personal services

Faculty

Lower division

Upper division

Primary professional

Graduate division

Advanced professional and other graduate

Summer allowance

Other faculty

Subtotal

University retirement plan

Nonfaculty

Total Personal Services

Other operating expenditures

Grand Total

Source

General revenue funds

College funds

Total

Budgeted Dollars Per Student

Other Available Versions

1. State colleges

2. Public junior colleges

3. Individual public institutions upon request

4. Per cent of total

## MISSOURI HIGHER EDUCATION

STATE AID TO THE PUBLIC UNIVERSITY

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978

## Operating Expenditures (%)

Personal services

Other operating expenditures  
Total

## Capital Expenditures (%)

Buildings

Educational and general

Auxiliary enterprises

Subtotal

Repairs and replacements

Educational and general

Auxiliary enterprises

Subtotal

Land

Total

## Student Aid (%)

Work assignments

Grants

Total

Total State Aid (%)

Total State Aid (\$000)

Other Available Versions

1. State colleges
2. Public junior colleges
3. Individual public institutions upon request

100% 100% 100% 100% 100% 100% 100% 100%

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978

Total State Aid Per \$1,000 Of  
Personal Income In Missouri (\$)

Average State Aid Per \$1,000 Of  
Personal Income In Surveyed States (\$)

Number Of Students

Aid Per Student (\$) (a)

Average Aid Per Student In  
Surveyed States

(a)Excludes Universitywide programs, Agriculture Experimental  
Station and Medical Center.

MISSOURI HIGHER EDUCATION

INCOME AND EXPENDITURES AT THE PUBLIC UNIVERSITY  
(Per Cent Of Total)

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978

Current Income								
Education and general								
Student fees								
State and local government								
Federal appropriations								
Endowment earnings								
Private gifts								
Sponsored research								
Federal								
Nonfederal								
Other sponsored programs								
Federal								
Nonfederal								
Sales and other sources								
Subtotal								
Auxiliary enterprises								
Student aid								
Total Current Income								
Per Cent	100%	100%	100%	100%	100%	100%	100%	100%
Dollars (000)								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Total dollars
5. Dollars per student
6. Dollars per credit hour

Category	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978
Current Expenditures								
Education and general								
Instruction and departmental research								
Extension and public service								
Libraries								
Physical plant maintenance								
General administration and general expense								
Organized activities								
Organized research								
Other sponsored programs								
All other education and general								
Hospital								
Crippled children's service								
Subtotal								
Auxiliary enterprises								
Student aid								
Total Current Expenditures	100%	100%	100%	100%	100%	100%	100%	100%
Per Cent								
Dollars (000)								
Surplus Or (Deficit) Of Current Income								
Over Current Expenditures (\$000)								

MISSOURI HIGHER EDUCATION

STUDENT CHARGES AT PUBLIC INSTITUTIONS

Type Of Charge	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Tuition And Fees Per Resident Student

Junior colleges  
Missouri  
Surveyed states  
State colleges  
Missouri  
Surveyed states  
Universities  
Missouri  
Surveyed states

Tuition And Fees Per Nonresident Student

Junior colleges  
Missouri  
Surveyed states  
State colleges  
Missouri  
Surveyed states  
Universities  
Missouri  
Surveyed states

Other Available Versions

1. Private institutions
2. Individual public institutions by level of offering

Type Of Charge	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Room And Board Per Student

Junior colleges

Missouri

Surveyed states

State colleges

Missouri

Surveyed states

Universities

Missouri

Surveyed states

MISSOURI HIGHER EDUCATION

SPONSORED RESEARCH  
(Per Cent Of Current Income)

Institution By Level Of Offering And Control	Past Actual		Current	Projected				
	1958	1963		1969	1970	1971	1973	1978

Public

Junior colleges  
(detail list)

State colleges  
(detail list)

Public university  
(detail list)

Private

Junior colleges  
(detail list)

Four-year colleges  
(detail list)

Universities  
(detail list)

Other Available Versions

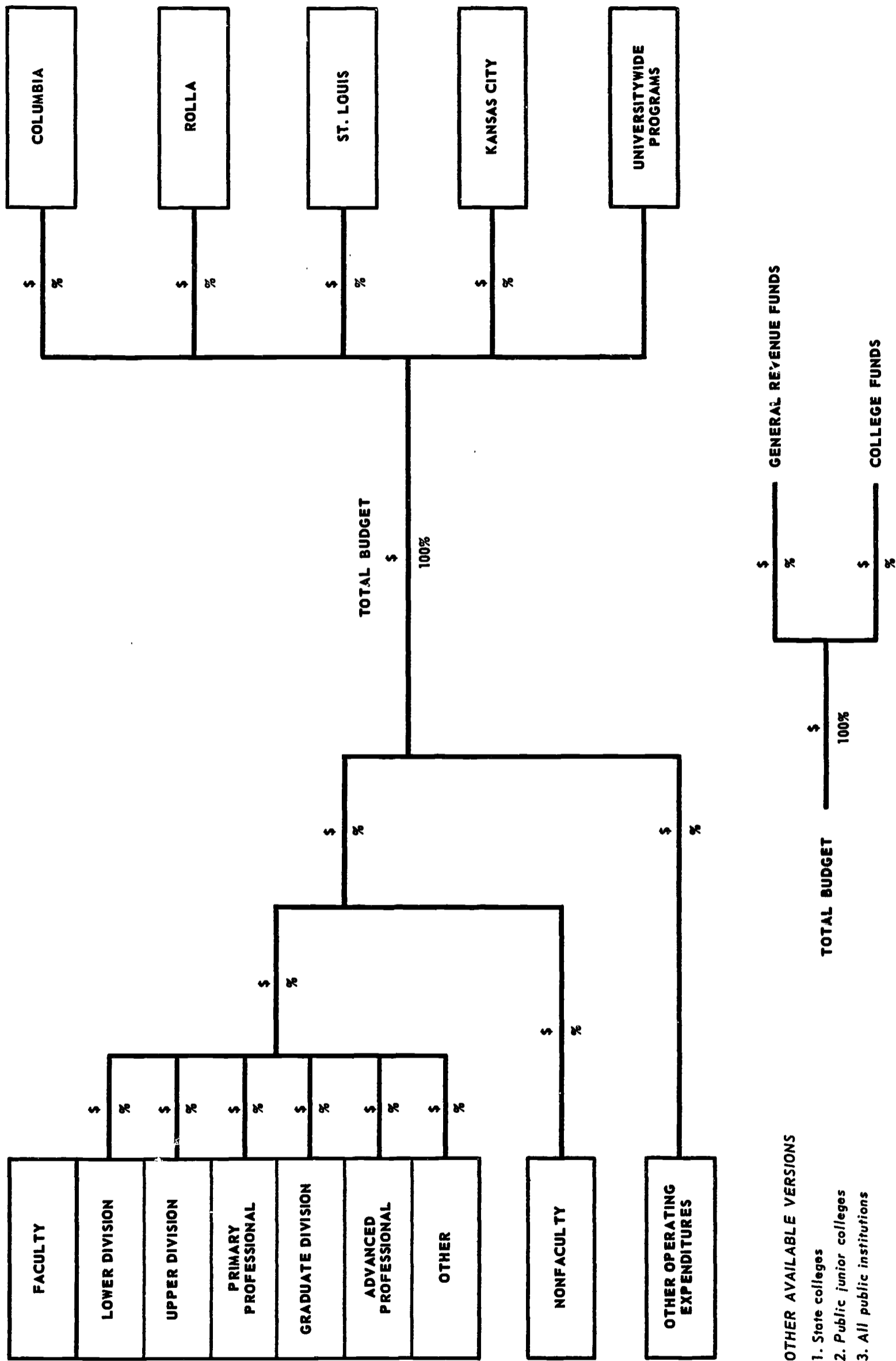
This report format can be used to compare  
any income or expenditure account.

## C - INFORMATION REPORTS ON CURRENT FINANCES

### Exhibit Number

	Budget Recommendations
IV-12	Budget Recommendation Breakdown At The Public University
IV-13	Recommended Budget Of The Public University
IV-14	Detail Of Recommended Budget Of The Public University
	State Aid
IV-15	State Aid To Public Institutions By Level Of Offering
	Income And Expenditures
IV-16	Current Income And Expenditures

MISSOURI HIGHER EDUCATION  
BUDGET RECOMMENDATION BREAKDOWN  
AT THE PUBLIC UNIVERSITY



MISSOURI HIGHER EDUCATION

RECOMMENDED BUDGET OF THE PUBLIC UNIVERSITY

Category	University Of Missouri				
	Columbia	Rolla	Kansas City	St. Louis	Average

Budget(a)					
Personal services					
Faculty					
Lower division					
Upper division					
Primary professional					
Graduate division					
Advanced professional and other graduate					
Summer allowance					
Other faculty					
Subtotal Faculty					
University retirement plan					
Nonfaculty					
Total Personal Services					
Per Cent					
Dollars (000)					
Other operating expenditures					
Grand Total					
Per Cent					
Dollars (000)					
Source					
General revenue funds					
College funds					
Total					
Per Cent					
Dollars (000)					
Budgeted Dollars Per Student(a)					
	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%

Other Available Versions

1. State colleges
2. Public junior colleges
3. Total dollars

(a)Excludes Universitywide programs, Agriculture  
Experimental Station and Medical Center.

MISSOURI HIGHER EDUCATION

DETAIL OF RECOMMENDED BUDGET OF  
THE PUBLIC UNIVERSITY

Category	Budget Guideline		Commission Recommen- dation	Appro- piation Last Year	Recommendation As A Percentage Of Last Year's Appropriation
	Number Of Faculty Or Projected Enrollment	Average Faculty Salary Or Amount Per Student			

←———— (\$000) —————→

Budget  
 Personal services  
   Faculty  
     Lower division  
     Upper division  
     Primary professional  
     Graduate division  
     Advanced professional  
       and other graduate  
     Summer allowance  
     Other faculty  
       Subtotal Faculty  
   University retirement plan  
   Nonfaculty  
     Total  
   Other operating expenditures  
   Grand Total

Source  
   General revenue funds  
   College funds  
     Total  
   Other Available Versions  
     1. State colleges  
     2. Public junior colleges  
     3. Individual public institutions

Budgeted Dollars Per Student(a)

(a)Excludes Universitywide programs, Agriculture Experimental Station  
and Medical Center.

MISSOURI HIGHER EDUCATION

STATE AID TO PUBLIC INSTITUTIONS BY LEVEL OF OFFERING

Category	Public			Total
	Junior Colleges	State Colleges	University	

Operating Expenditures (\$000)

Personal services

Other operating expenditures  
Total

Capital Expenditures (\$000)

Buildings

Educational and general

Auxiliary enterprises

Subtotal

Repairs and replacements

Educational and general

Auxiliary enterprises

Subtotal

Land

Total

Student Aid (\$000)

Work assignments

Grants

Total

Total State Aid (\$000)

Total State Aid Per \$1, 000 Of

Personal Income In Missouri (\$000)

Average State Aid Per \$1, 000 Of

Personal Income In Surveyed States (\$000)

Other Available Versions

- 1. Public university campuses
- 2. State colleges
- 3. Public junior colleges

Category	Public			Total
	Junior Colleges	State Colleges	University	

Number Of Students

Aid Per Student (\$000)

Average Aid Per Student In  
Surveyed States (\$000)

# MISSOURI HIGHER EDUCATION

## CURRENT INCOME AND EXPENDITURES

Category	University Of Missouri Year Ending June 30, 1968				St. Louis University Year Ending ____1968	Washington University Year Ending ____1968
	Columbia Rolla		Kansas City	Average		

Current Income						
Education and general						
Student fees						
State and local governments						
Federal appropriations						
Endowment earnings						
Private gifts						
Sponsored research						
Federal						
Nonfederal						
Other sponsored programs						
Federal						
Nonfederal						
Sales and other sources						
Subtotal						
Auxiliary enterprises						
Student aid						
Total Current Income						
Per Cent	100%	100%	100%	100%	100%	100%
Dollars (000)						

### Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Total dollars
5. Dollars per student

Category	University Of Missouri				St. Louis University Year Ending 1968	Washington University Year Ending 1968
	Year Ending June 30, 1968					
	Columbia	Rolla	Kansas City	St. Louis Average		
Current Expenditures						
Education and general						
Instruction and departmental research						
Extension and public service						
Libraries						
Physical plant maintenance						
General administration and general expense						
Organized activities						
Organized research						
Other sponsored programs						
All other education and general Hospital						
Crippled children's service						
Subtotal						
Auxiliary enterprises						
Student aid						
Total Current Expenditures	100%	100%	100%	100%	100%	100%
Per Cent						
Dollars (000)						
Surplus Or (Deficit) Of Current						
Income Over Current						
Expenditures (\$000)						

## D - RECORD LAYOUTS

### Exhibit Number

IV-17	Income Record
IV-18	Expenditures Record
IV-19	Budget And Other Financial Data Record
IV-20	Appropriations Record
IV-21	Higher Education State Survey Record

MISSOURI HIGHER EDUCATION  
INCOME RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Income record	12
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	

CURRENT INCOME

10-17	Student fees	Whole dollar amount
18-25	State and local government	Whole dollar amount
26-33	Federal appropriations	Whole dollar amount
34-41	Endowment earnings	Whole dollar amount
42-49	Private gifts	Whole dollar amount
50-57	Sponsored research - federal	Whole dollar amount
58-65	Sponsored research - nonfederal	Whole dollar amount
66-73	Other sponsored programs - federal	Whole dollar amount

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Income record	13
3-4	Institution code		
5-7	Record date	Month and year	
CURRENT INCOME (Cont'd)			
8-15	Other sponsored programs - nonfederal	Whole dollar amount	
16-23	Sales and other sources	Whole dollar amount	
24-31	Auxiliary enterprises	Whole dollar amount	
32-39	Student aid	Whole dollar amount	

Note: Income data will be taken from Higher Education  
General Information Survey (HEGIS) Form OE-2300-4.

MISSOURI HIGHER EDUCATION  
EXPENDITURES RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Expenditures record	14
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	

CURRENT EXPENDITURES

10-17	Instruction and departmental research	Whole dollar amount
18-25	Extension and public service	Whole dollar amount
26-33	Libraries	Whole dollar amount
34-41	Physical plant maintenance	Whole dollar amount
42-49	General administration and general expenses	Whole dollar amount
50-57	Organized activities	Whole dollar amount
58-65	Organized research	Whole dollar amount
66-73	Other sponsored programs	Whole dollar amount

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Expenditures record	15
3-4	Institution code		
5-7	Record date	Month and year	
CURRENT EXPENDITURES (Cont'd)			
8-15	All other education and general	Whole dollar amount	
16-23	Hospital	Whole dollar amount	
24-31	Crippled children's service	Whole dollar amount	
32-39	Auxiliary enterprises	Whole dollar amount	
40-47	Student aid	Whole dollar amount	

Note: Expenditures data will be taken from Higher Education  
General Information Survey (HEGIS) Form OE-2300-4.

MISSOURI HIGHER EDUCATION  
BUDGET AND OTHER FINANCIAL DATA RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1 -2	Record type	Budget record	20
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-17	Faculty - lower division	Whole dollar amount	
18-25	Faculty - upper division	Whole dollar amount	
26-32	Faculty - primary profes - sional	Whole dollar amount	
33-39	Faculty - graduate division	Whole dollar amount	
40-47	Faculty - advanced profes - sional and other graduate	Whole dollar amount	
48-54	Faculty - summer allowance	Whole dollar amount	
55-62	Faculty - other faculty	Whole dollar amount	
63-69	University retirement plan	Whole dollar amount	
70-77	Nonfaculty	Whole dollar amount	

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1 -2	Record type	Budget record	21
3 -4	Institution code		
5 -7	Record date	Month and year	
8 -15	Other operating expend- itures	Whole dollar amount	
16 -24	General revenue funds	Whole dollar amount	
25 -32	College funds	Whole dollar amount	
33 -36	Resident tuition and fees	Whole dollar amount	
37 -40	Nonresident tuition and fees	Whole dollar amount	
41 -44	Average annual room and board charges	Whole dollar amount	

## MISSOURI HIGHER EDUCATION

APPROPRIATIONS RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Appropriations record	22
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-17	Faculty - lower division	Whole dollar amount	
18-25	Faculty - upper division	Whole dollar amount	
26-32	Faculty - primary professional	Whole dollar amount	
33-39	Faculty - graduate division	Whole dollar amount	
40-47	Faculty - advanced professional and other graduate	Whole dollar amount	
48-54	Faculty - summer allowance	Whole dollar amount	
55-62	Faculty - other faculty	Whole dollar amount	
63-69	University retirement plan	Whole dollar amount	
70-77	Nonfaculty	Whole dollar amount	

120

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Appropriations record	23
3-4	Institution code		
5-7	Record date	Month and year	
8-15	Other operating expenditures	Whole dollar amount	
16-24	General revenue funds	Whole dollar amount	
25-32	College funds	Whole dollar amount	
33-40	Capital expenditures for buildings	Educational and general	
41-47		Auxiliary enterprises	
48-54	Capital expenditures for repairs and replacements	Educational and general	
55-61		Auxiliary enterprises	

## MISSOURI HIGHER EDUCATION

HIGHER EDUCATION STATE SURVEY RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	State survey record	24
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-9	Institution code		
10-12	Record date	Month and year	
13-24	Total personal income in state	Whole dollar amount	
25-32	Total number of students enrolled in higher education		
33-42	Total state aid to higher education	Whole dollar amount	
43-52	State aid - operating expenditures	Whole dollar amount	
53-62	State aid - capital expenditures	Whole dollar amount	
63-73	State aid - student aid	Whole dollar amount	

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	State survey record	25
3-7	Institution code		
8-10	Record date	Month and year	
11-21	State aid - student loans	Whole dollar amount	
22-32	State aid - other	Whole dollar amount	
33-36	Average resident tuition - university	Whole dollar amount	
37-40	Average resident tuition - state colleges	Whole dollar amount	
41-44	Average resident tuition - junior colleges	Whole dollar amount	
45-48	Average nonresident tuition - university	Whole dollar amount	
49-52	Average nonresident tuition - state colleges	Whole dollar amount	
53-56	Average nonresident tuition - junior colleges	Whole dollar amount	
57-60	Average room and board charges per student - university	Whole dollar amount	
61-64	Average room and board charges per student - state colleges	Whole dollar amount	
65-68	Average room and board charges per student - junior colleges	Whole dollar amount	

## V - PERSONNEL INFORMATION SUBSYSTEM

## V - PERSONNEL INFORMATION SUBSYSTEM

This chapter describes the personnel information subsystem, which includes faculty, administrative and nonprofessional employees. This subsystem will provide a comprehensive view of all higher education employees in the State. Data concerning faculty and other professional employees will be presented in greater detail than data for nonprofessional employees.

Analyses will be prepared for professional employees showing primary function, subject area, utilization and workload, and individual characteristics. These reports will include nonprofessional employees where appropriate.

Detailed input records will be prepared by each institution for faculty and other professional employees. As in the student subsystem, individual identity is not required, but a unique number is needed for controlling the input. Non-professional employees will be reported on a summary basis by employee classification.

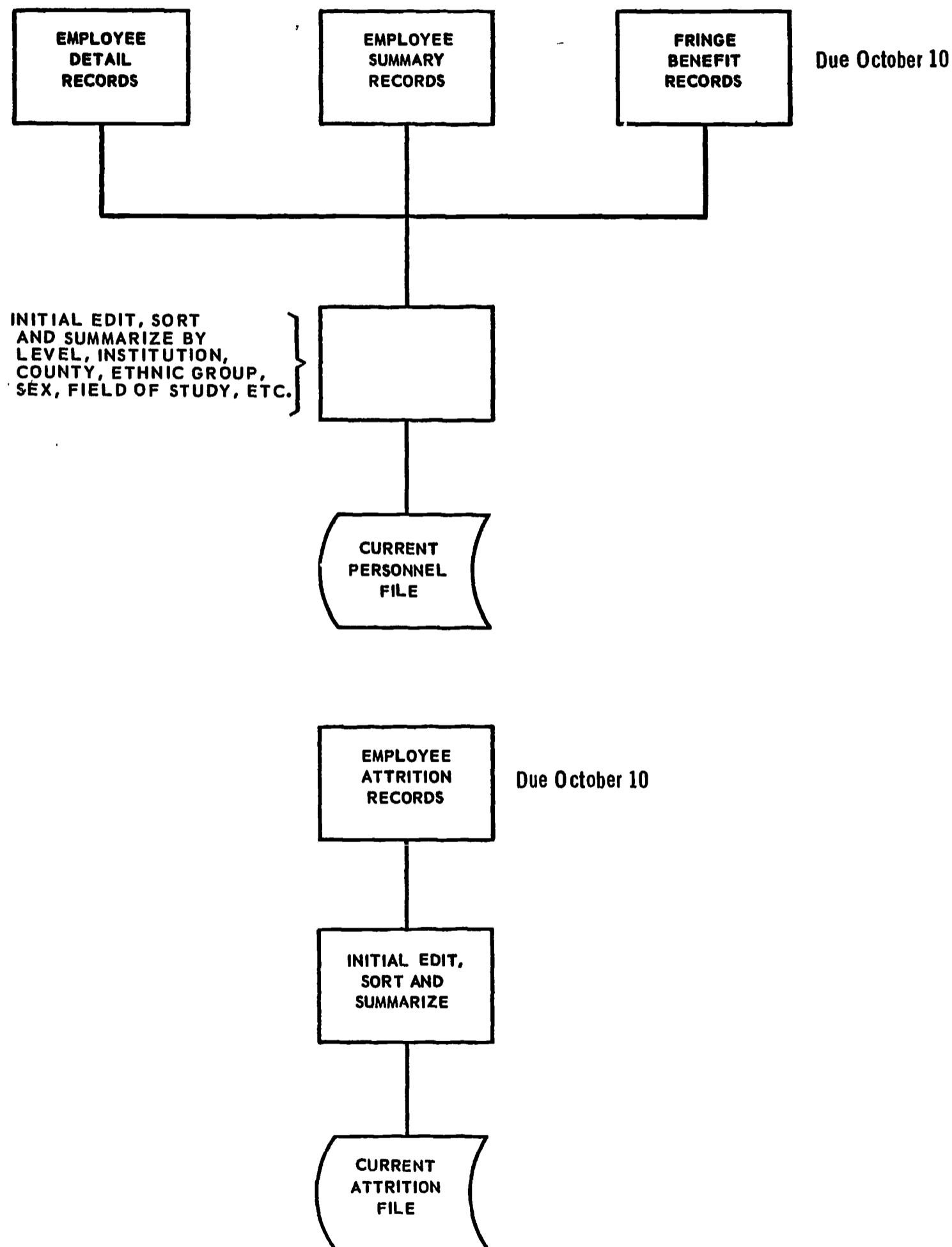
The description which follows includes flow charts, planning and information report formats, and input record layouts.

## A - FLOW CHARTS

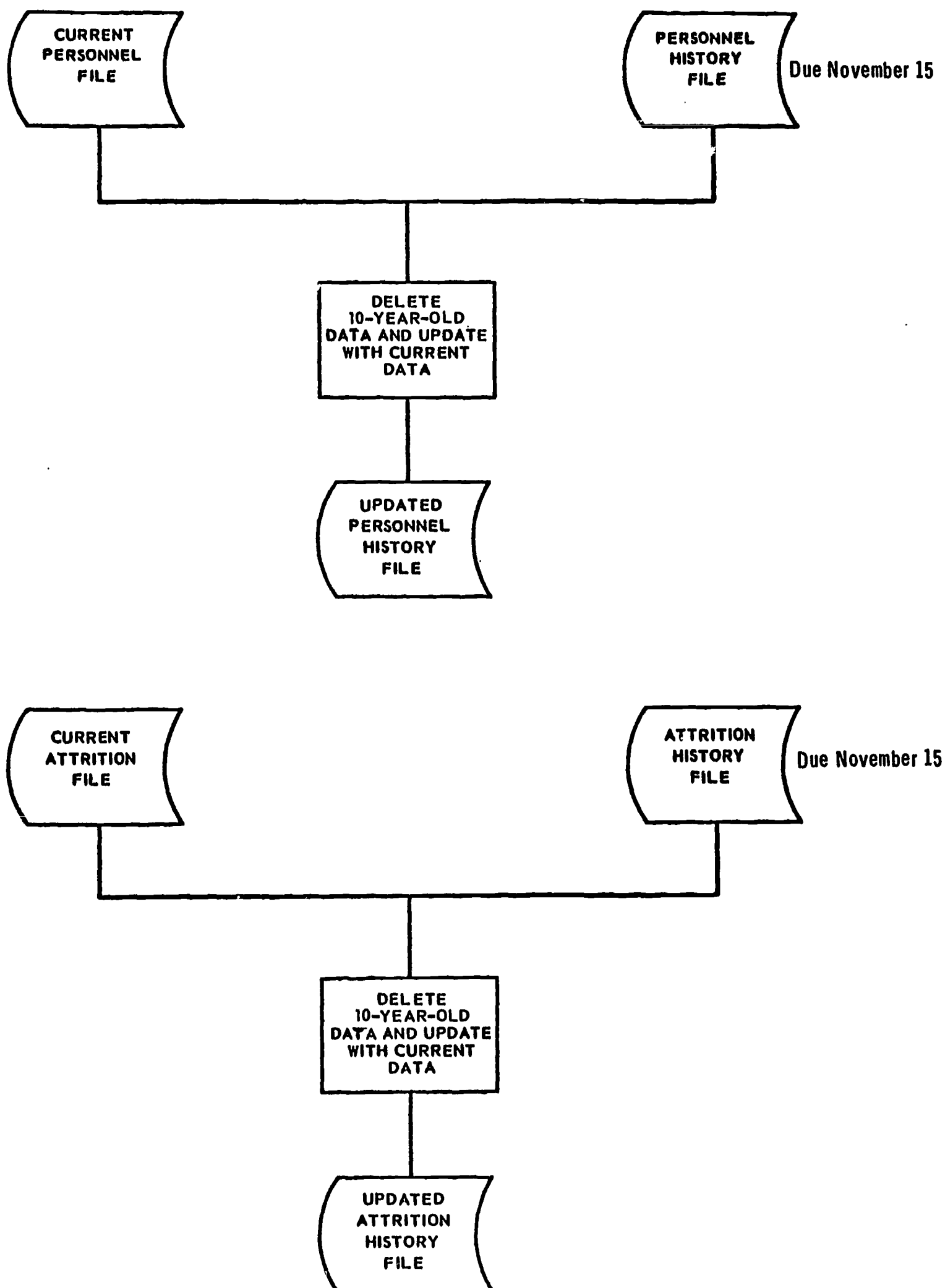
### Exhibit Number

- |     |   |
|-----|---|
| V-1 | Creating Initial Files Or Processing Fall<br>Personnel Data |
| V-2 | Updating Personnel And Attrition History Files              |
| V-3 | Processing Planning Reports                                 |
| V-4 | Processing Information Reports                              |

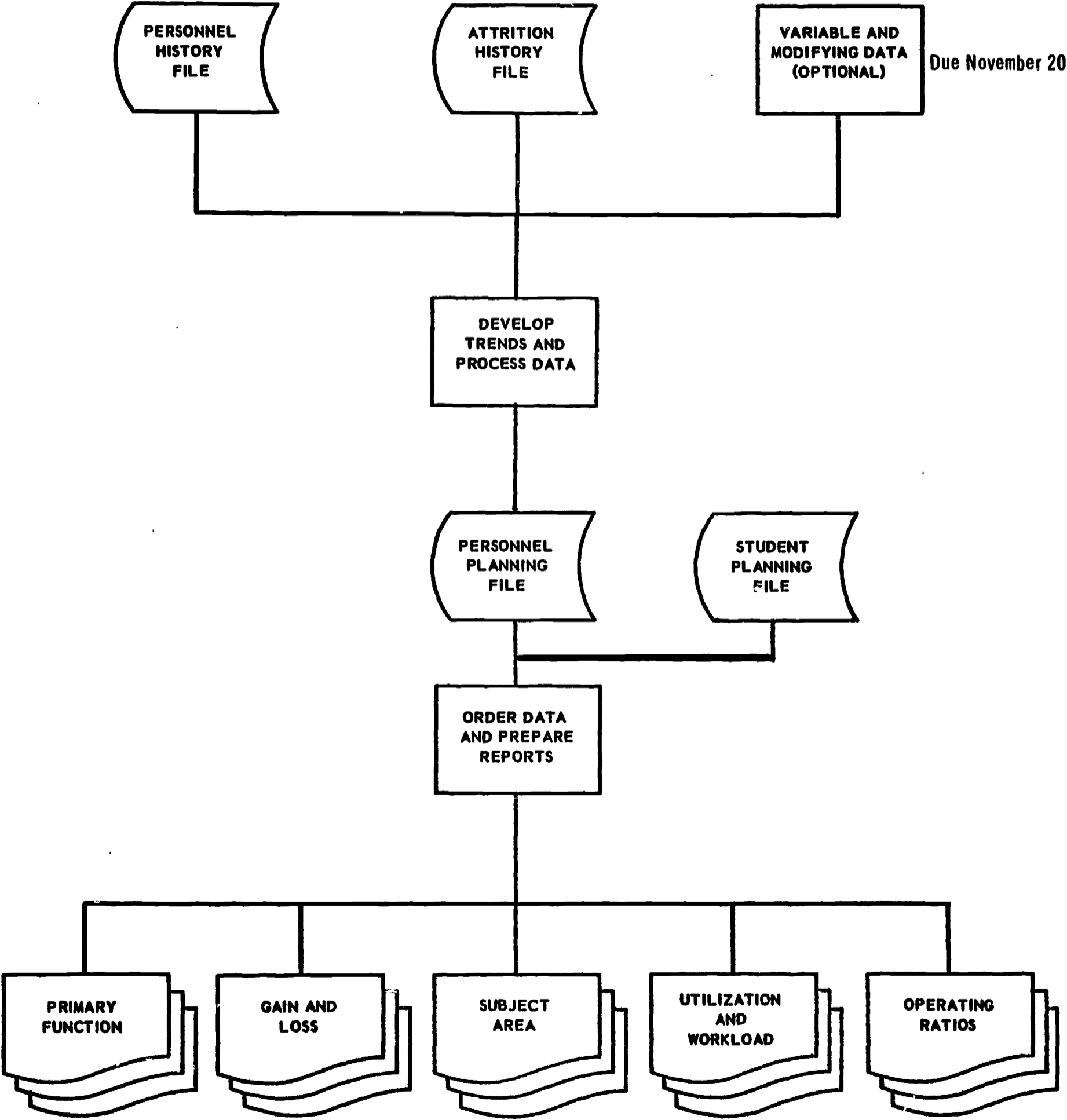
MISSOURI HIGHER EDUCATION  
CREATING INITIAL FILES OR PROCESSING FALL PERSONNEL DATA



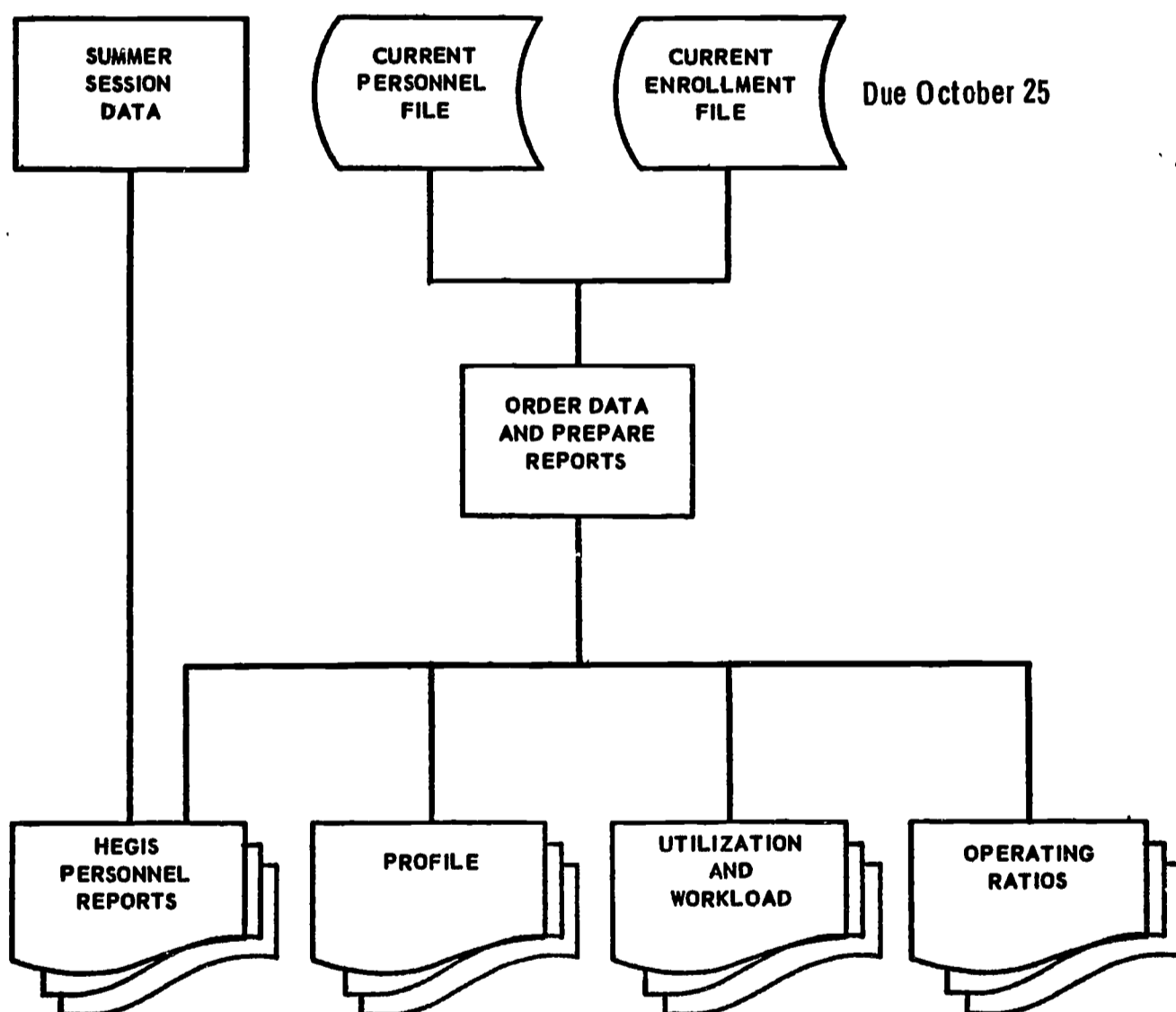
MISSOURI HIGHER EDUCATION  
UPDATING PERSONNEL AND ATTRITION HISTORY FILES



MISSOURI HIGHER EDUCATION  
PROCESSING PLANNING REPORTS



MISSOURI HIGHER EDUCATION  
PROCESSING INFORMATION REPORTS



**B - PLANNING REPORTS FOR  
FUTURE MISSOURI HIGHER EDUCATION**

**Exhibit  
Number**

	<b>Primary Function</b>
V-5	Primary Function Of Full-Time Personnel
V-6	Average Annual Salary Of Full-Time Staff At The Public University
	<b>Gain And Loss</b>
V-7	Gain And Loss Of Full-Time Instructional Staff At The Public University
	<b>Subject Area</b>
V-8	Instructional Staff By Subject Area At The Public University
	<b>Utilization And Workload</b>
V-9	Utilization And Workload Of Full-Time Instructional Staff
	<b>Operating Ratios</b>
V-10	Operating Ratios At The Public University Of Full-Time-Equivalent Staff

# MISSOURI HIGHER EDUCATION

## PRIMARY FUNCTION OF FULL-TIME PERSONNEL (Per Cent Of Full-Time Staff)

Primary Function	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Professional								
Administration								
Instruction								
Academic Deans								
Professors								
Associate Professors								
Assistant Professors								
Instructors								
Junior staff								
Other								
Subtotal								
Organized research								
Library								
Extension and public service								
Auxiliary enterprises								
Student services								
Other								
Total Professionals								

### Other Available Versions

1. Numbers of full-time staff upon request
2. Level of offering
3. Level of offering and control
4. Per cent of FTE staff
5. Individual public institutions upon request

Primary Function	Past Actual		Current	Projected				
	1958	1963		1969	1970	1971	1973	1978
			1968					

Nonprofessional  
Secretarial  
Instructional  
Other  
Clerical  
Maintenance  
Technical

Total Nonprofessional

Grand Total  
Per Cent  
Number

Number of students

100%    100%    100%    100%    100%    100%    100%

MISSOURI HIGHER EDUCATION

AVERAGE ANNUAL SALARY OF FULL-TIME-STAFF  
AT THE PUBLIC UNIVERSITY

Primary Function	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Professional  
Administration  
Instruction  
Academic Deans  
Professors  
Assistant Professors  
Instructors  
Junior staff  
Other

Average

Organized research  
Library  
Extension and public service  
Auxiliary enterprises  
Student services  
Other

Average Professional

Other Available Versions

1. State colleges
2. Public junior colleges
3. Level of offering
4. FTE staff
5. Individual public institutions upon request

Primary Function	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Nonprofessional  
Secretarial  
Instructional  
Other  
Clerical  
Maintenance  
Technical  
Average Nonprofessional  
Average Personnel

Total Number Of Personnel

# MISSOURI HIGHER EDUCATION

## GAIN AND LOSS OF FULL-TIME INSTRUCTIONAL STAFF AT THE PUBLIC UNIVERSITY (Years Ending August 30)

Category	Past Actual		Current	Projected				
	1958	1963		1969	1970	1971	1973	1978

Beginning Of Year Total

Gains

Transfers

From other Missouri  
institutions

From other states

From other countries

Subtotal

First-time teaching

Leaves and sabbaticals

Total Gains

Grand Total Beginning And Gains

Losses

Transfers

To other Missouri  
institutions

To other states

To other countries

Subtotal

Other reasons for leaving

Retirement or death

Other occupation

Further study

Other

Subtotal

Leaves and sabbaticals

Total Losses

End Of Year Total

# MISSOURI HIGHER EDUCATION

## INSTRUCTIONAL STAFF BY SUBJECT AREA AT THE PUBLIC UNIVERSITY (Per Cent Of Full-Time-Equivalent Instructional Staff)

Subject Area	Item Number	Past Actual		Current 1968	Projected			
		1958	1963		1969	1970	1971	1973 1978
Agriculture	1000							
Architecture	1400							
Biological Science	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And System Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Language And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical Subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							

### Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Per cent of full-time staff upon request
5. Individual public institutions upon request
6. Fields of study upon request

Subject Area	Item Number	Past Actual		Current 1968	Projected				
		1958	1963		1969	1970	1971	1973	1978

Social Sciences 7700  
 Broad General Curriculums 8300  
 And Miscellaneous Fields

Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Per Cent									
Number									

MISSOURI HIGHER EDUCATION

UTILIZATION AND WORKLOAD

OF FULL-TIME INSTRUCTIONAL STAFF

Utilization And Workload Measure	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Public Junior Colleges

Average scheduled hours per  
faculty member

Instruction

Administration

Departmental research

Organized research

Other

Total

Workload

Contact-hours per  
faculty member

Credit-hours per  
faculty member

State Colleges

Average scheduled hours per  
faculty member

Instruction

Administration

Departmental research

Organized research

Other

Total

Workload

Contact-hours per faculty  
member

Credit-hours per faculty  
member

- Other Available Versions
1. Private institutions by level of offering
  2. Rank upon request
  3. Subject area upon request
  4. Individual public institutions upon request

Utilization And Workload Measure	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Public University

Average scheduled hours per  
faculty member

Instruction

Administration

Departmental research

Organized research

Other

Total

Workload

Contact-hours per faculty  
member

Credit-hours per faculty  
member

# MISSOURI HIGHER EDUCATION

## OPERATING RATIOS OF FULL-TIME-EQUIVALENT STAFF AT THE PUBLIC UNIVERSITY

Category	Past Actual		Current 1968	Projected				
	1958	1963		1969	1970	1971	1973	1978

Student/Faculty

- Associate - terminal/faculty
- Associate - transfer/faculty
- Bachelor's/faculty
- First professional/faculty
- Master's/faculty
- Doctoral/faculty
- Overall Student/Faculty Ratio

Student/Support Staff

- Student/library
- Undergraduate students
- Graduate students
- Student/student services
- Student/auxiliary enterprises
- Student/administration
- Overall Student/Support Staff Ratio

Faculty/Support Staff

- Faculty/library
- Faculty/secretarial
- Faculty/administration
- Overall Faculty/Support Staff Ratio

Number Of Faculty

Number Of Students

### Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual public institutions upon request

## C - INFORMATION REPORTS ON CURRENT PERSONNEL

### Exhibit Number

#### Profile

- V-11 Profile By Primary Function
- V-12 Average Annual Salaries Of Full-Time Personnel  
At The State Colleges
- V-13 Rank Of Full-Time Instructional Staff By Subject  
Area At The Public University
- V-14 Profile Of Personnel Attributes
- V-15 Fringe Benefits

#### Utilization And Workload

- V-16 Utilization And Workload Of Full-Time Instructional  
Staff At The Public University

#### Operating Ratios

- V-17 Operating Ratios Of Full-Time-Equivalent Staff

MISSOURI HIGHER EDUCATION

PROFILE BY PRIMARY FUNCTION  
(Per Cent Of Full-Time Staff)

Primary Function	Public			Private			Subtotal	Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	

Professional

Administration  
Instruction

Academic Deans  
Professors  
Associate Professors  
Assistant Professors  
Instructors  
Junior staff  
Other

Subtotal

Organized research

Library  
Extension and public service  
Auxiliary enterprises  
Student services  
Other

Total Professional

Other Available Versions

1. Individual public institutions by level of offering
2. FTE staff upon request
3. Part-time staff upon request

Primary Function	Public				Private			
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal
Nonprofessional								
Secretarial								
Instructional								
Other								
Clerical								
Maintenance								
Technical								
Total Nonprofessional								
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%
Per Cent								
Number								

# MISSOURI HIGHER EDUCATION

## AVERAGE ANNUAL SALARIES OF FULL-TIME PERSONNEL AT THE STATE COLLEGES

Primary Function	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Average
------------------	---------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	---------

### Professional

Administration

Instruction

Academic Deans

Professors

Associate Professors

Assistant Professors

Instructors

Junior staff

Other

Average

Organized research

Library

Extension and public service

Auxiliary enterprises

Student services

Other

Average Professional

Nonprofessional

Secretarial

Instructional

Other

Clerical

Maintenance

Technical

Average Nonprofessional

Average All Personnel

### Other Available Versions

1. Public university
2. Public junior colleges
3. Part-time personnel
4. Years of service upon request

# MISSOURI HIGHER EDUCATION

## RANK OF FULL-TIME INSTRUCTIONAL STAFF BY SUBJECT AREA AT THE PUBLIC UNIVERSITY

Subject Area	Item Number	Academic Deans	Professors	Associate Professors	Assistant Professors	Instructors	Junior Staff	Other	Total Instructional Staff
Agriculture	1000								
Architecture	1400								
Biological Science	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And System Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine And Applied Arts	3200								
Folklore	3300								
Foreign Language And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical Subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								

### Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Fields of study upon request

Subject Area	Item Number	Academic Deans	Professors	Associate Professors	Assistant Professors	Instructors	Junior Staff	Other	Total Instructional Staff
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculum And Miscellaneous Fields	8300								
Total Instructional Staff									

MISSOURI HIGHER EDUCATION  
 PROFILE OF PERSONNEL ATTRIBUTES  
 (Per Cent Of Full-Time Instructional Staff)

Category	Public			Private			Subtotal	Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	

Age  
 Under 21  
 21-30  
 31-40  
 41-50  
 51-60  
 61-70  
 Over 70  
 Average

Ethnic Group  
 American Indian  
 Negro  
 Oriental  
 Spanish American  
 Other

Sex  
 Male  
 Female

Other Available Versions  
 1. Other professional staff  
 2. Nonprofessional staff  
 3. Individual public institutions by level of offering  
 4. Part-time staff upon request

Category	Public				Private			Subtotal	Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four -Year Colleges	Universities		

Highest Degree  
Doctoral  
Master's  
First professional  
Bachelor's  
Associate  
Other

Total Years Of  
Teaching Experience  
At This Institution  
0-2  
3-5  
6-20  
Over 20  
Average

MISSOURI HIGHER EDUCATION

FRINGE BENEFITS

(Expenditures Per Covered Full-Time Faculty Member)

Fringe Benefit	Public			Private			Overall Average
	Junior Colleges	State Colleges	University	Average	Junior Colleges	Four-Year Colleges	Universities

Retirement Plan

Vested

Not vested

Hospitalization

Guaranteed Disability

Income Protection

Tuition Plan

Sabbatical Plan

Housing Plan

Social Security Taxes (FICA)

Unemployment Compensation Taxes

Group Life Insurance

Total Fringe Benefits

Other Available Versions

1. Individual public institution by level of offering
2. Faculty rank upon request

MISSOURI HIGHER EDUCATION

UTILIZATION AND WORKLOAD OF  
FULL-TIME INSTRUCTIONAL STAFF AT THE PUBLIC UNIVERSITY

Utilization And Workload Measure	University Of Missouri			Average
	Columbia	Rolla	Kansas City	

Average Scheduled Hours Per  
Faculty Member  
Instruction  
Administration  
Departmental research  
Organized research  
Other  
Total

Workload Per Faculty Member  
Contact-hours  
Credit-hours

- Other Available Versions
1. State colleges
  2. Public junior colleges

MISSOURI HIGHER EDUCATION  
OPERATING RATIOS OF  
FULL-TIME-EQUIVALENT STAFF

Category	Public			Private			Overall
	Junior Colleges	State Colleges	University	Junior Colleges	Four-Year Colleges	Universities	

Student/Faculty  
Associate - terminal/faculty  
Associate - transfer/faculty  
Bachelor's/faculty  
First professional/faculty  
Master's/faculty  
Doctoral/faculty  
Overall Student/Faculty Ratio

Student/Support Staff  
Student/administration  
Student/library  
Undergraduate students  
Graduate students  
Student/student services  
Student/auxiliary enterprises  
Overall Student/Support Staff Ratio

Faculty/Support Staff  
Faculty/library  
Faculty/secretarial  
Faculty/administration  
Overall Faculty/Support Staff Ratio

Number Of Faculty

Number Of Students

Other Available Versions  
1. Individual public institutions by  
level of offering  
2. Full-time staff

## D - RECORD LAYOUTS

### Exhibit Number

V-18	Employee Detail Record
V-19	Personnel Primary Function Code List
V-20	Employee Summary Record
V-21	Employee Attrition Record
V-22	Fringe Benefits Record

## MISSOURI HIGHER EDUCATION

EMPLOYEE DETAIL RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Employee record	
		Full-time professional staff	04
		Part-time professional staff	05
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-21	Primary function	See Exhibit V-19	
22	Sex	Male	M
		Female	F
23-24	Year of birth	Last two digits of year of birth	
25	Ethnic group	American Indian	1
		Negro	2
		Oriental	3
		Spanish American	4
		Other	5
26	Marital status	Single	S
		Married	M
27-32	Annual salary	Whole dollar amounts (annualize part-time salaries)	
33	Compensation period	9-10 months	1
		11-12 months	2
34-35	Service date	Last two digits of year joined instructional staff	

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
36	Highest degree	Doctoral	1
		Master's	2
		First professional	3
		Bachelor's	4
		Associate	5
		Other	6
37-41	Institution granting highest degree	Federal educational institution code	
42-46	Institution granting first degree	Federal educational institution code	

FACULTY PERSONNEL ONLY

47-48	Year granted tenure	Last two digits of year granted tenure	
49-52	Field of study currently teaching	Office of Education Item number	
53-55	Credit-hours currently teaching		
56-57	Teaching contact- hours	Weekly hours scheduled	
58-59	Administration hours	Weekly hours scheduled	
60-61	Departmental research hours	Weekly hours scheduled	
62-63	Organized research hours	Weekly hours scheduled	
64-65	Other hours	Weekly hours scheduled	

NEW FACULTY WITHIN LAST YEAR ONLY

66	Transfer from	In state	1
		Out of state	2
		Out of country	3
67-71	Other college code	Federal educational institution code	
72-74	Foreign country		
75	First time teaching code	Yes	Y
		No	N

PERSONNEL PRIMARY FUNCTION CODE LIST

<u>Item</u>	<u>Code Number</u>
Instruction and Departmental Research	
Professional	
Academic Deans	001
Professors	002
Associate Professors	003
Assistant Professors	004
Instructors	005
Junior staff	006
Other	007
Nonprofessional	
Secretarial	008
Clerical	009
Technical	010
Other	011
Organized Research	
Professional	
Academic Deans	020
Professors	021
Associate Professors	022
Assistant Professors	023
Instructors	024
Junior staff	025
Other	026
Nonprofessional	
Secretarial	027
Clerical	028
Technical	029
Other	030
Library	
Professional	
Professional librarian	040
Other	041
Nonprofessional	
Secretarial	042
Clerical	043
Technical	044
Other	045

<u>Item</u>	<u>Code Number</u>
Extension and Public Service	
Professional	
Formal instruction	050
Consultation	051
Other	052
Nonprofessional	
Secretarial	053
Clerical	054
Technical	055
Other	056
Auxiliary Services	
Professional	060
Nonprofessional	
Secretarial	061
Clerical	062
Technical	063
Other	064
Schools Operated By The Institution	
Professional	
Elementary schools	065
Secondary schools	066
Nonprofessional	
Secretarial	067
Clerical	068
Technical	069
Other	070
Student Services	
Professional	075
Nonprofessional	
Secretarial	076
Clerical	077
Technical	078
Other	079
Administration	
Professional	
President	080
Executive Vice President, General Administration	081
Director, Institutional Studies	082
Director, Planning	083
Dean or Vice President, Academic Administration	084

<u>Item</u>	<u>Code Number</u>
Professional (Cont'd)	
Director, Audiovisual	085
Director, Evening School	086
Director, Extension (including adult)	087
Dean, Graduate Program	088
Administrator, Organized Research	089
Director, Summer Session(s)	090
Dean of Students	091
Director, Admissions	092
Director, College Union (Student Union)	093
Director or Advisor, Foreign Student Affairs	094
Registrar	095
Director, Student Aid	096
Director, Student Health	097
Dean of Men	098
Dean of Women	099
Vice President for Development and Public Relations	100
Alumni Secretary	101
Director, Development (Fund Raising)	102
Director, Placement Services	103
Director, Public Relations (Information)	104
Business Manager or Vice President	105
Manager, Bookstore	106
Budget Officer or Controller	107
Director, Food Services	108
Director, Housing	109
Director, Nonacademic Personnel	110
Director, Physical Plant	111
Purchasing Agent	112
Director, Intercollegiate Athletics	113
Nonprofessional	
Secretarial	120
Clerical	121
Maintenance	122
Technical	123
Other	124
Other Employees	
Professional	130
Nonprofessional	
Secretarial	131
Clerical	132
Maintenance	133
Technical	134
Other	135

MISSOURI HIGHER EDUCATION  
EMPLOYEE SUMMARY RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Employee record	
		Full-time non- professional staff	06
		Part-time non- professional staff	07
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-14	Number of employees		
15-17	Primary function	See Exhibit V-19	
18	Union affiliation	Yes	Y
		No	N
19	Compensation basis	Hourly	1
		Annual	2
20-22	Average monthly hours		
23-27	Average rate		

MISSOURI HIGHER EDUCATION  
EMPLOYEE ATTRITION RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Attrition record	08
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-21	Primary function	See Exhibit V-19	
22	Sex	Male	M
		Female	F
23-24	Year of birth	Last two digits of year of birth	
25	Ethnic group	American Indian	1
		Negro	2
		Oriental	3
		Spanish American	4
		Other	5
26	Marital status	Single	S
		Married	M

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
27-28	Service date	Last two digits of year joined instructional staff	
29	Highest degree	Doctoral	1
		Master's	2
		First professional	3
		Bachelor's	4
		Associate	5
		Other	6
30-34	Institution granting highest degree	Federal educational institution code	
35-39	Institution granting first degree	Federal educational institution code	
FACULTY PERSONNEL ONLY			
40-41	Year granted tenure	Last two digits of year granted tenure	
42-46	Field of study currently teaching	Office of Education item number	
47-48	Attrition code	Transfer	01
		Retirement	02
		Business	03
		Further study	04
		Leaves and sabbatical	05
		Other	06
49-51	Termination date	Month and year	
FOR TRANSFERS ONLY			
52	Transfer	In state	1
		Out of state	2
		Out of country	3
53-57	Other college code	Federal educational institution code	
58-60	Foreign countries		

MISSOURI HIGHER EDUCATION

FRINGE BENEFITS RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Fringe benefit record	09
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-8	Record year		
9-10	Type of benefit	Retirement plan	
		Vested	01
		Not vested	02
		Hospitalization, surgical and medical plans	03
		Guaranteed disability income protection	04
		Tuition plan	
		Cash grants	05
		Noncash grants	06
		Sabbatical plan	07
		Housing plan	
		Cash payments	08
		Subsidy estimate	09
		Social security taxes	10
		Unemployment compensa- tion taxes	11
		Group life insurance	12
		Tax sheltered annuity	13

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
11-16	Academic Deans	Total expenditures	
17-20		Number covered	
21-26	Professors	Total expenditures	
27-30		Number covered	
31-36	Associate Professors	Total expenditures	
37-40		Number covered	
41-46	Assistant Professors	Total expenditures	
47-50		Number covered	
51-56	Instructors	Total expenditures	
57-60		Number covered	
61-66	Junior staff	Total expenditures	
67-70		Number covered	
71-76	Other	Total expenditures	
77-80		Number covered	

## VI - FACILITIES INFORMATION SUBSYSTEM

## VI - FACILITIES INFORMATION SUBSYSTEM

The facilities information subsystem described in this chapter includes analyses of buildings and rooms of all higher education institutions in the State. These analyses will enable the Commission to coordinate and develop State higher education facilities more effectively. These analyses provide trend and comparative information on facilities, and are generally described in terms of dollar amounts or square feet per FTE student, with emphasis on instructional and office space.

This subsystem also provides analyses of instructional space utilization. These reports include information on average scheduled weekly hours for classrooms and laboratories, and the utilization of student stations within these rooms. Input information will be provided by each institution.

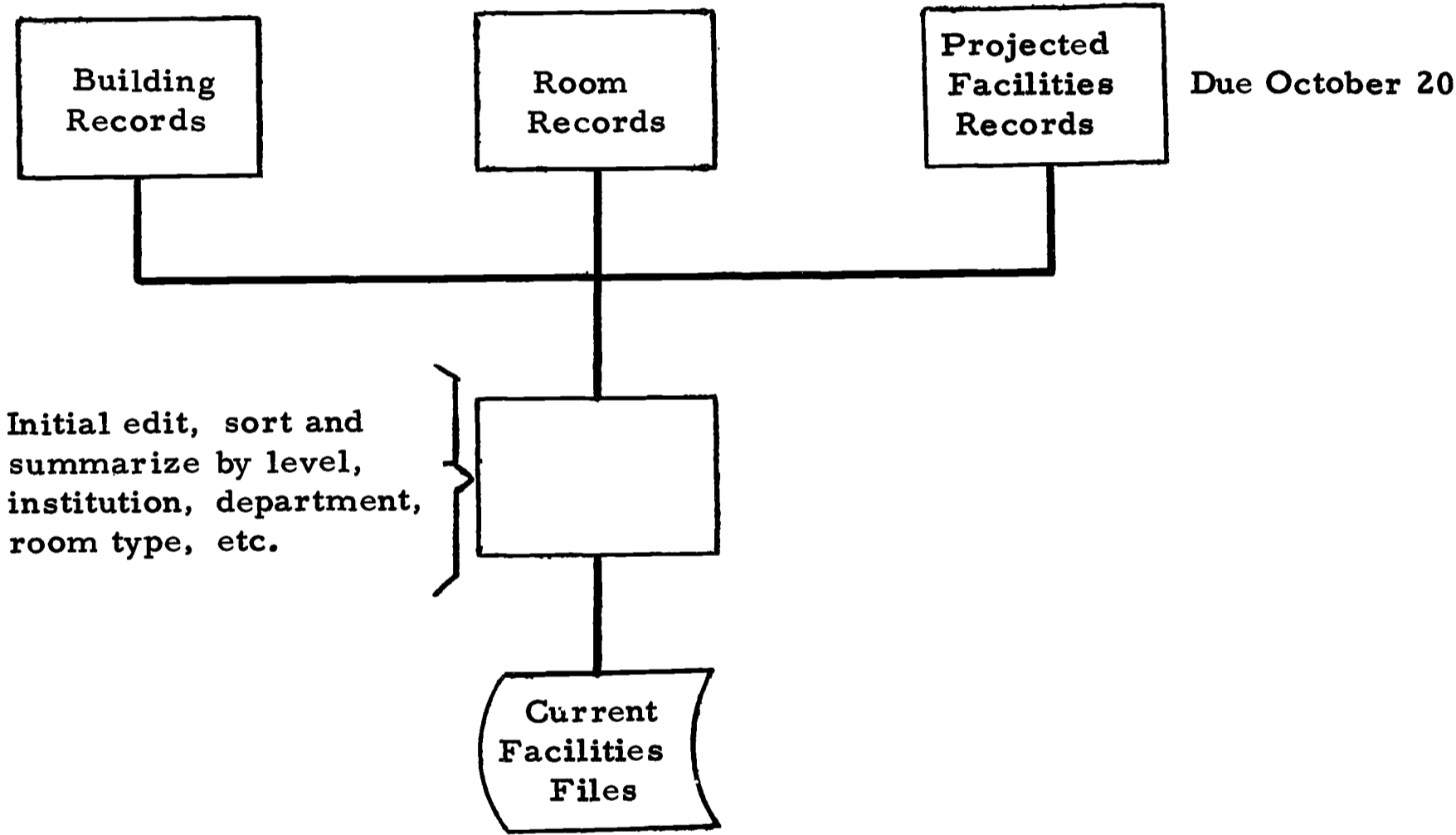
The following description of this subsystem includes the flow charts, formats of information and planning reports, and layouts of input records.

## A - FLOW CHARTS

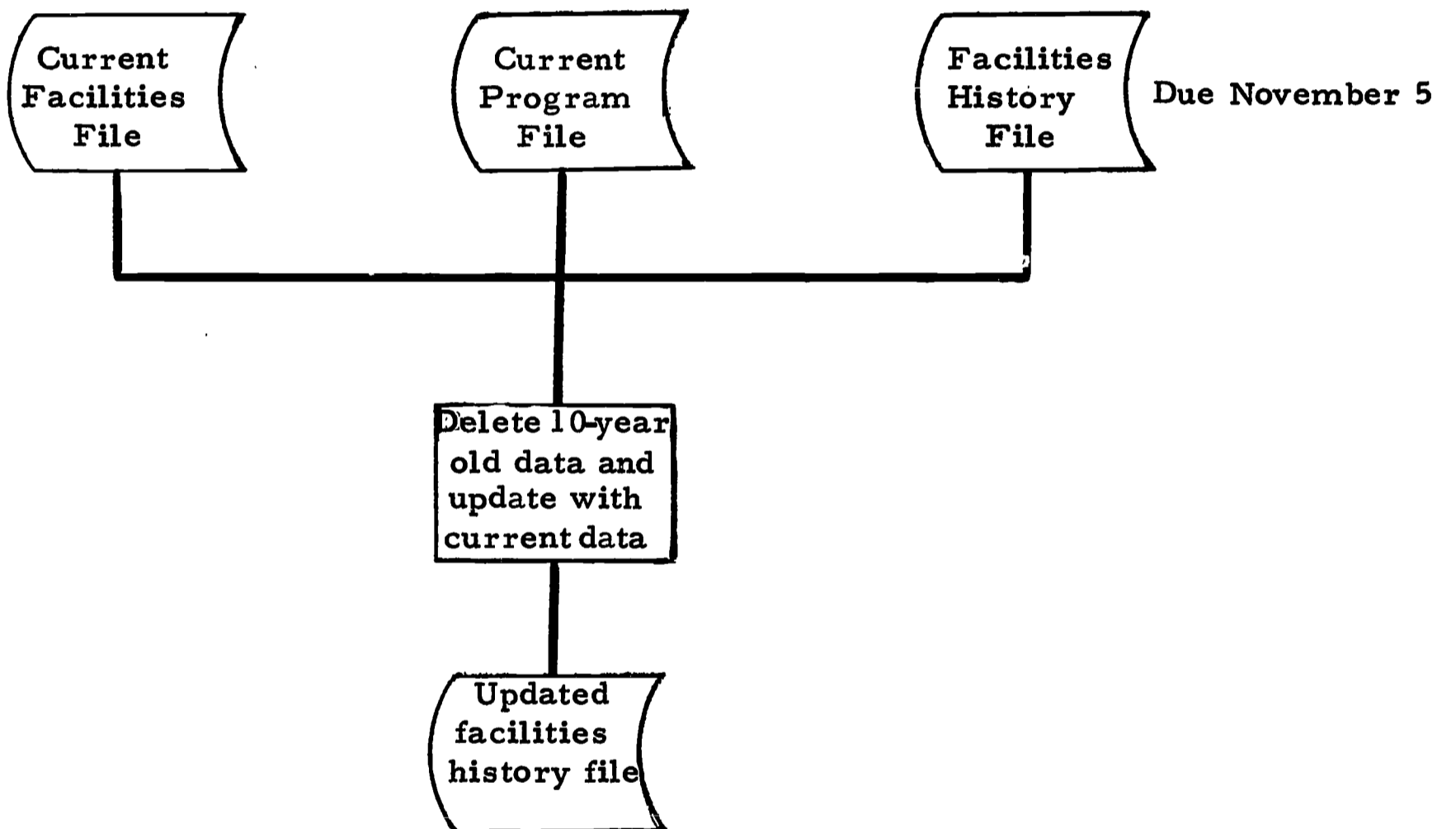
### Exhibit Number

- |      |  |
|------|--|
| VI-1 | Creating Initial Files Or Processing Fall<br>Facilities Data |
| VI-2 | Updating Facilities History File                             |
| VI-3 | Processing Planning Reports                                  |
| VI-4 | Processing Information Reports                               |

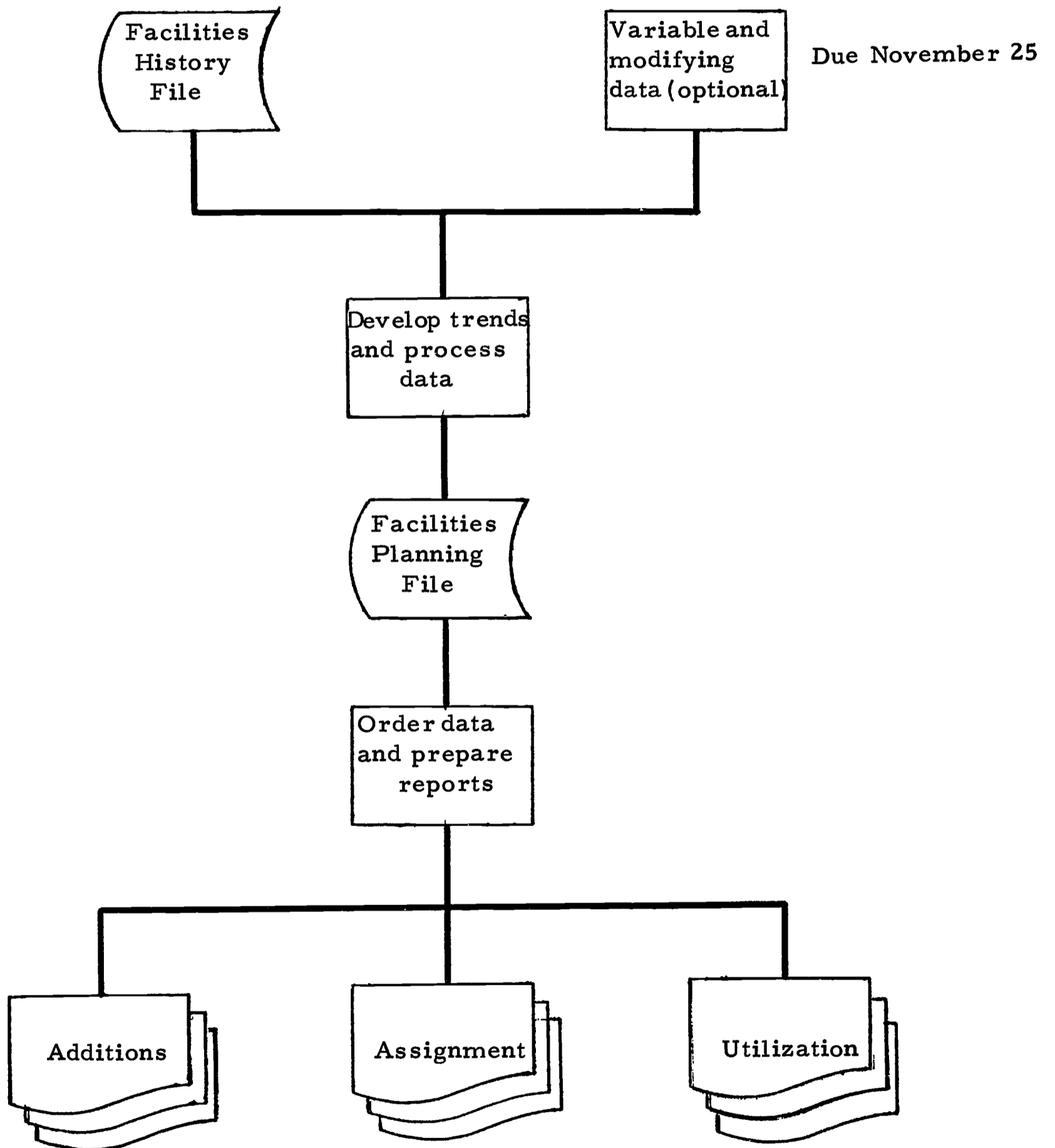
MISSOURI HIGHER EDUCATION  
CREATING INITIAL FILES OR PROCESSING  
FALL FACILITIES DATA



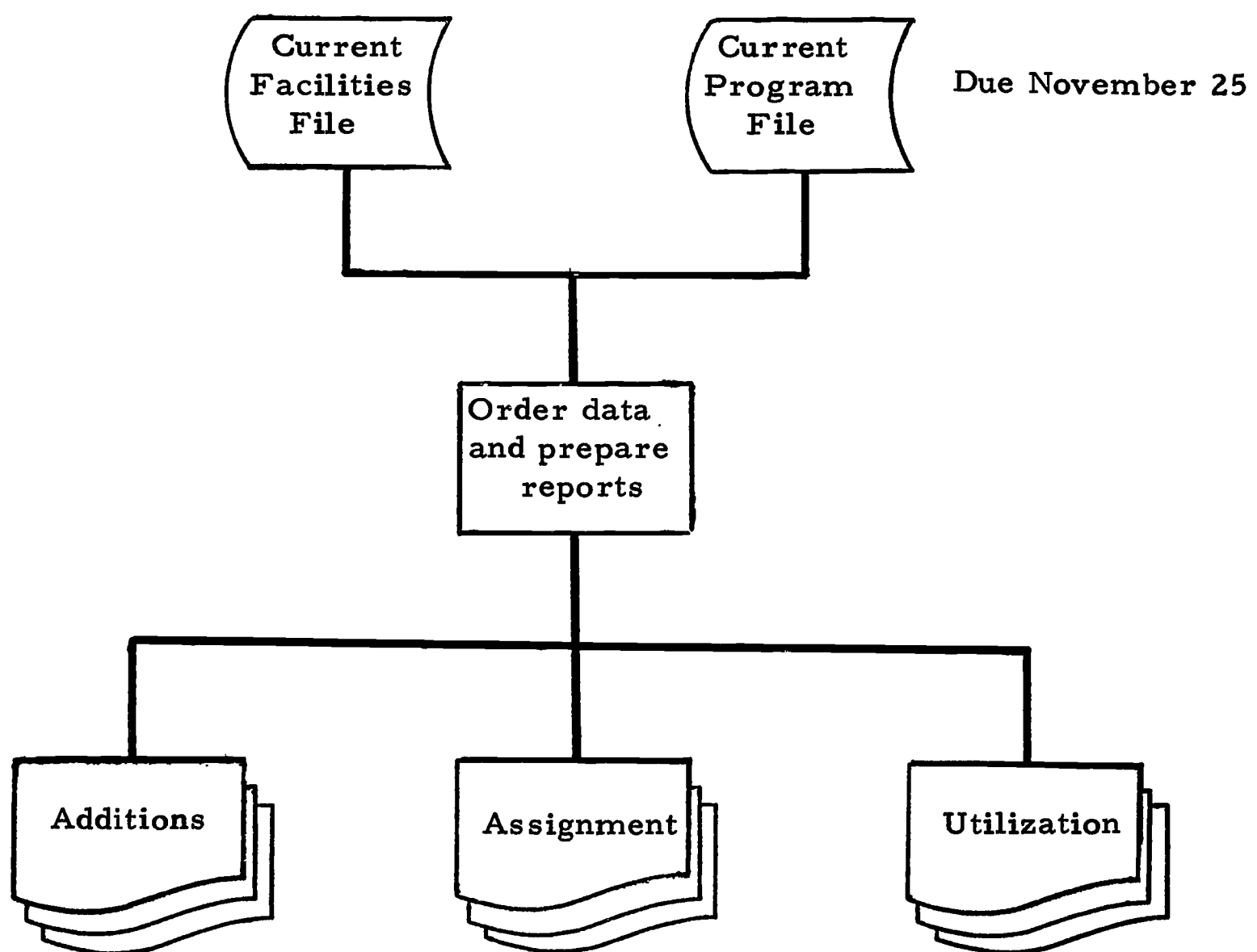
MISSOURI HIGHER EDUCATION  
 UPDATING FACILITIES HISTORY FILE



MISSOURI HIGHER EDUCATION  
PROCESSING PLANNING REPORTS



MISSOURI HIGHER EDUCATION  
PROCESSING INFORMATION REPORTS



**B - PLANNING REPORTS FOR  
FUTURE MISSOURI HIGHER EDUCATION**

**Exhibit  
Number**

<b>Additions</b>	
VI-5	Additions To Physical Plant At The Public University
VI-6	Building Costs
<b>Assignment</b>	
VI-7	Space By Function At The Public University
VI-8	Space By Room Type At The Public University
<b>Utilization</b>	
VI-9	Instruction Space Utilization At The Public University

## MISSOURI HIGHER EDUCATION

ADDITIONS TO PHYSICAL PLANT AT THE PUBLIC UNIVERSITY  
(Thousands Of Dollars)

Nature Of Addition And Source Of Funds	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973 1978

## Estimated Expenditures

Land

Improvements other than buildings

Buildings

Educational and general

Academic

Instructional and library

Other

Other educational and general

Housing and related

Residence halls

Family units

Service

Other auxiliary enterprises

Subtotal

Equipment

Total

Source Of Funds

Federal government

Housing and related

All other

State and local government

Housing and related

All other

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private insitutions by  
of offering
4. Individual institutions upon  
request

Nature Of Addition And Source Of Funds	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973 1978

Private  
Housing and related  
All other  
  
Total

# MISSOURI HIGHER EDUCATION

## BUILDING COSTS (Average Amount Per Square Foot)

Type Of Building	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973 1978

Public							
Junior colleges							
Educational and general							
Housing and related							
Other auxiliary enterprises							
State colleges							
Educational and general							
Housing and related							
Other auxiliary enterprises							
University							
Educational and general							
Housing and related							
Other auxiliary enterprises							
Private							
Junior colleges							
Educational and general							
Housing and related							
Other auxiliary enterprises							
Four-Year colleges							
Educational and general							
Housing and related							
Other auxiliary enterprises							

- Other Available Versions
- Individual public institutions by level of offering
  - Individual private institutions by level of offering upon request

Type Of Building	Past Actual		Current 1968	Projected			
	1958	1963		1969	1970	1971	1973 1978

Universities  
Educational and general  
Housing and general  
Other auxiliary enterprises

Total - All Institutions  
  
Educational and general  
Housing and related  
Other auxiliary enterprises

MISSOURI HIGHER EDUCATION

SPACE BY FUNCTION AT THE PUBLIC UNIVERSITY  
(Square Feet Per FTE Student)

Primary Function	Past Actual		Current	Projected			
	1958	1963		1969	1970	1971	1973 1978

Assignable

Instruction and research

Organized activity units

Organized research units

Library

General administration and institutional services

Auxiliary services

Noninstitutional services

Unassigned

Subtotal

Nonassignable

Total Space

Assignable Space/Total Space Ratio

Number Of FTE Students

Capacity/Enrollment Ratio (Sum of instruction and research and library space/student clock hours)

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions
5. Square feet per employee for other than instruction or instruction related functions upon request

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE AT THE PUBLIC UNIVERSITY  
(Square Feet Per FTE Student)

Room Type	Past Actual		Current	Projected				
	1958	1963		1969	1970	1971	1973	1978

Classroom	
Laboratory	
Office	
Study	
Special Use	Other Available Versions
General Use	1. State colleges
Support	2. Public junior colleges
Medical Care	3. Private institutions by level of offering
Residence	4. Individual institutions
Total	

MISSOURI HIGHER EDUCATION

INSTRUCTION SPACE UTILIZATION AT THE PUBLIC UNIVERSITY

Utilization Measure	Past Actual		Current	Projected			
	1958	1963		1969	1970	1971	1973 1978

Classroom Utilization

Classrooms

Number

Average scheduled weekly hours

Student stations

Number

Station hours available weekly(a)

Station hours actually used weekly

Per cent utilization

Laboratory Utilization

Laboratories

Number

Average scheduled weekly hours

Student stations

Number

Station hours available weekly(a)

Per cent utilization

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Instruction and research categories upon request

(a) Total number of student stations multiplied by the average scheduled weekly hours.

## C - INFORMATION REPORTS ON CURRENT FACILITIES

### Exhibit Number

-	Additions
VI-10	Additions To Physical Plant At The Public University
	Assignment
VI-11	Space By Function
VI-12	Space By Room Type
VI-13	Space By Room Type And Function At The Public University
VI-14	Office Space
	Utilization
VI-15	Instruction Space Utilization
VI-16	Departmental Space Utilization At The Public University

MISSOURI HIGHER EDUCATION

ADDITIONS TO PHYSICAL PLANT AT THE PUBLIC UNIVERSITY  
(Thousands Of Dollars)

Nature Of Addition And Source Of Funds	University Of Missouri				Total
	Columbia	Rolla	Kansas City	St. Louis	

Estimated Expenditures

Land  
 Improvements other than buildings  
 Buildings  
     Educational and general  
         Academic  
         Instructional and library  
         Other  
     Other educational and general  
         Housing and related  
         Residence halls  
         Family units  
         Service  
     Other auxiliary enterprises  
         Subtotal  
 Equipment

Total

Source Of Funds

Federal government  
 Housing and related  
     All other  
 State and local government  
 Housing and related  
     All other

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions upon request

Nature Of Addition And Source Of Funds	University Of Missouri				Total
	Columbia	Rolla	Kansas City	St. Louis	

Private

Housing and related

All other

Total

MISSOURI HIGHER EDUCATION

SPACE BY FUNCTION  
(Square Feet Per FTE Student)

Primary Function	University Of Missouri				St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis		
				Total		

Assignable  
Instruction and research  
Organized activity units  
Organized research units  
Library  
General administration and  
institutional services  
Auxiliary services  
Noninstitutional services  
Unassigned

Subtotal

Nonassignable

Total Space

Assignable Space/Total  
Space Ratio

Number of FTE Students

Capacity/Enrollment Ratio  
(Sum of instruction and  
research and library space/  
student clock hours)

- Other Available Versions
1. State colleges
  2. Public junior colleges
  3. Private institutions by level of offering

Primary Function	University of Missouri				St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis		
				Total		

Assignable Space/ Total  
Space Ratio

Number of FTE Students

Capacity/Enrollment Ratio  
(Sum of Instruction and Research and Library space/student clock hours).

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE  
(Square Feet Per FTE Student)

Room Type	Public			Private			Missouri Average
	Junior Colleges	State Colleges	University	Average	Junior Colleges	Four-Year Colleges	Universities

Classroom

Laboratory

Office

Study

Special Use

General Use

Support

Medical Care

Residence

Total

- Other Available Versions
1. Individual institutions by level of offering and control
  2. Universities

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE AND FUNCTION AT THE PUBLIC UNIVERSITY  
(Square Feet Per FTE Student)

Primary Function	Office of Education Facilities Code	Type Of Room									
		Class-Room	Lab-oratory	Office	Study	Special Use	General Use	Support	Medical Care	Resi-dence	Total
Instruction And Research	1000										
General or unclassified	1100										
Life sciences	1200										
Health sciences	1230										
Medicine	1231										
Veterinary medicine	1232										
Dentistry	1233										
Nursing	1234										
Pharmacy	1235										
Public health	1236										
Other health	1238										
General health	1239										
Other life sciences	1299										

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions upon request

## Total Organized Research

Primary Function	Office Of Education Facilities Code	Type Of Room									
		Class- Room	Lab- oratory	Office	Study	Special Use	General Use	Support	Medical Care	Resi- dence	Total
Public Service Units	4000										
Library	5000										
General Administration and Institutional Services	6000										
Auxiliary Services	7000										
Noninstitutional Agencies	8000										
Unassigned	9000										
Total Assignable Space											
Nonassignable Space	000										
Grand Total Space											

MISSOURI HIGHER EDUCATION

OFFICE SPACE  
(Square Feet Per Full-Time Professional Employee)

Primary Function	University Of Missouri				St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis		
				Total		

Instruction And Research  
Organized Activity Units  
Organized Research Units  
Library  
General Administration And  
Institutional Services  
Auxiliary Services  
Noninstitutional Services  
Unassigned

Total Number Of Full-  
Time Professional  
Employees

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level  
of offering

# MISSOURI HIGHER EDUCATION

## INSTRUCTION SPACE UTILIZATION

Utilization Measure	University Of Missouri				St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis		
				Total		

### Classroom Utilization

#### Classrooms

Number

Average scheduled weekly hours

Student stations

Number

Station hours available weekly(a)

Station hours actually used weekly

Per cent utilization

### Laboratory Utilization

#### Laboratories

Number

Average scheduled weekly hour

Student stations

Number

Station hours available weekly(a)

Station hours actually used weekly

Per cent utilization

### Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering

(a)Total number of student stations multiplied by the average scheduled weekly hours.

# MISSOURI HIGHER EDUCATION

## DEPARTMENTAL SPACE UTILIZATION AT THE PUBLIC UNIVERSITY

Department Of Instruction And Research	Office Of Education Facilities Code	Classrooms		Student Stations		
		Number	Average Scheduled Weekly Hours	Number	Station Hours Available Weekly(a)	Station Hours Actually Used
General Or Unclassified	1100					
Life Sciences	1200					
Health sciences	1230					
Medicine	1231					
Veterinary medicine	1232					
Dentistry	1233					
Nursing	1234					
Pharmacy	1235					
Public health	1236					
Other health	1238					
General health	1239					
Other life sciences	1299					
Subtotal						

Mathematic, Computer, Physical And Engineering Sciences	1300
Behavioral Science	1400
Humanities	1500
Professions	1600
Technical-Vocational	1700
Physical Education And Military Science	1800
Total	

- Other Available Versions
1. Laboratory utilization
  2. State colleges
  3. Public junior colleges
  4. Private institutions by level of offering

(a) Total number of student stations multiplied by average scheduled weekly hours.

## D - RECORD LAYOUTS

### Exhibit Number

VI-17	Projected Facilities Record: Actual Expenditures, 1962-63 Through 1966-67
VI-18	Projected Facilities Record: Source Of Funds, 1962-63 Through 1966-67
VI-19	Projected Facilities Record: Estimated Expenditures, 1967-68 Through 1971-72
VI-20	Projected Facilities Record: Source Of Funds, 1967-68 Through 1971-72
VI-21	Projected Facilities Record: Estimated Expenditures, 1972-73 Through 1976-77
VI-22	Projected Facilities Record: Source Of Funds, 1972-73 Through 1976-77
VI-23	Building Record
VI-24	Room Record
VI-25	Room Primary Function Code List

MISSOURI HIGHER EDUCATION  
 PROJECTED FACILITIES RECORD:  
ACTUAL EXPENDITURES  
 1962-63 Through 1966-67

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	30
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educa- tional and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-6.

## MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS  
1962-63 Through 1966-67

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	31
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

## MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: ESTIMATED EXPENDITURES  
1967-68 Through 1971-72

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	32
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educational and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken from  
Higher Education General Information Survey  
(HEGIS) Form OE-2300-6.

## MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS  
 1967-68 Through 1971-72

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	33
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

## MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: ESTIMATED EXPENDITURES  
 1972-73 Through 1976-77

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	34
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educational and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken  
 from Higher Education General Information  
 Survey (HEGIS) Form OE-2300-6.

## MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS  
 1972-73 Through 1976-77

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Projected facilities record	35
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

## MISSOURI HIGHER EDUCATION

BUILDING RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Building record	36
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-12	Building code	Institution building code	
13	Type of building	Education and general	1
		Housing and related	2
		Other	3
14-21	Gross area	Square feet	
22-28	Net area	Square feet	
29-31	Date of construction	Month and year	
32-40	Original cost	Whole dollar amount	
	Most recent remodel		
41-43	Date	Month and year	
44-52	Cumulative cost of remodeling	Whole dollar amounts	

## MISSOURI HIGHER EDUCATION

ROOM RECORD

<u>Punched Card Column</u>	<u>Item</u>	<u>Data</u>	<u>Code Number</u>
1-2	Record type	Room record	37
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-12	Building code	Institution building code	
13-17	Room number		
18-21	Primary function	See Exhibit VI-25	
22-24	Room type		
25-29	Gross area	Square feet	
30-33	Student stations	Total number	

ROOM PRIMARY FUNCTION CODE LIST

<u>Primary Function</u>	<u>Code Number(a)</u>
Department Of Instruction And Research	1000
General or unclassified	1100
Life Sciences	1200
Health Sciences	1230
Medicine	1231
Veterinary Medicine	1232
Dentistry	1233
Nursing	1234
Pharmacy	1235
Public Health	1236
Other Health	1238
General Health	1239
All Other Life Sciences	1299
Mathematical, Computer, Physical and Engineering Sciences	1300
Behavioral Sciences	1400
Humanities	1500
Professions	1600
Technical - Vocational	1700
Physical Education and Military Science	1800
Organized Activity Units	2000
Organized Research Units	3000
General or unclassified	3100
Life Sciences	3200
Health Sciences	3230
Medicine	3231
Veterinary Medicine	3232
Dentistry	3233
Nursing	3234
Pharmacy	3235
Public Health	3236
Other Health	3238
General Health	3239
All Other Life Sciences	3299

<u>Primary Function</u>	<u>Code Number (a)</u>
Mathematical, Computer, Physical and Engineering Sciences	3300
Behavioral Sciences	3400
Humanities	3500
Professions	3600
Technical-Vocational	3700
Physical Education and Military Science	3800
Public Service Units	4000
Library	5000
Central Administration And Institutional Services	6000
Auxiliary Services	7000
Noninstitutional Agencies	8000
Unassigned	9000
Nonassignable	000

(a) Office of Education item number.

## VII - MANAGEMENT INFORMATION SYSTEM DEFINITIONS

## VII - MANAGEMENT INFORMATION SYSTEM DEFINITIONS

A draft of the definitions has been furnished to the Commission as a separate document. This document will be reviewed and finalized by a committee of Missouri college representatives.

## VIII - PLAN OF ACTION

## VIII - PLAN OF ACTION

This chapter sets forth the steps necessary to install the proposed higher education information system, together with an estimate of the equipment, manpower and other resources required.

### PRELIMINARY STEPS

#### Obtain Agreement In Principle

If the institutions of higher education and the State are to obtain the benefits of an improved information system, the Commission, the Executive Secretary and the institutions must agree that this is a practical system that should be implemented.

#### Assign Full Responsibility For Accomplishing This Program To The Executive Secretary

It is necessary to have a single person responsible for accomplishing this installation project.

#### Assign One Full-Time Commission Employee Knowledgeable In Data Processing To Participate In The Detailed Design And Installation Effort

The Director of Institution Research should be largely responsible for this work.

#### Establish Specific Subprojects And Accomplishment Milestones

Prepare detailed write-ups complete with time schedules and cost budgets, where applicable, for each of the recommended installation steps.

Assign specific responsibility for project accomplishment.

Establish firm accomplishment milestones, and provide adequate resources for reaching them.

## SUGGESTED IMPLEMENTATION PLAN

Exhibit VIII-1, following, lists the steps necessary to install the system. The exhibit also shows recommended responsibility assignments, an estimate of the number of man-weeks of outside technical assistance required, and suggested priorities. This plan should be updated after the specific steps are authorized and responsibilities are assigned to specific individuals.

## MINIMUM DATA PROCESSING EQUIPMENT REQUIREMENTS

While a detailed equipment study has not been made (this is suggested as step 3 in the detailed installation plan), the data processing equipment configuration required for the recommended information system must have the following characteristics:

- Core storage or its equivalent in the range of 16,000 to 32,000 bytes
- Magnetic tape or disk input-output devices
- High-speed card input or off-line card-to-tape/disk capability
- High-speed printer output or off-line tape/disk-to-print capability
- Capability to accept higher-level programming languages such as COBOL.

## ESTIMATED PROGRAMMING REQUIREMENTS

Estimating the man-weeks required for coding, testing and documenting the necessary programs was approached as follows.

- Programs were classified according to type and degree of difficulty.
- The man-weeks required for developing individual programs were estimated, relative to the classifications identified above, as shown in Exhibit VIII-2.
- The system flow charts were reviewed to determine the total number of programs required, by classification.
- Man-weeks of programming effort were calculated and summarized from these data (see Exhibit VIII-3).

## MISSOURI HIGHER EDUCATION

SCHEDULE FOR IMPLEMENTATION

Number	Step	Recommended Responsibility Assignment	Estimated Man-Weeks Of Outside Technical Assistance Required		Suggested Priority
			Project Coordination And EDP Systems	Programming	
1	Obtain agreement on priority of subsystem conversions after consulting with public and private institutions and State officials	Executive Secretary	-	-	Immediate
2	Establish framework for coordinating and controlling the detailed design of the information system	Executive Secretary	None	None	Immediate
3	Determine detailed equipment requirements and arrange to obtain its use	Executive Secretary	2	None	Immediate
4	Make arrangements to secure necessary systems and programming manpower	Executive Secretary	None	None	Immediate
5	Design subsystems in detail: Student Program Financial Personnel Facilities	Director of Institutional Research/Installation Team	13 4 10 9 7	None None None None None	First Second Third Fourth Fifth
6	Select colleges for pilot installation	Executive Secretary	None	None	-
7	Review detailed design with colleges selected for pilot installation	Director of Institutional Research	2	None	-
8	Code, test and document required programs: Student Program Financial Personnel Facilities	Director of Institutional Research/Installation Team	None None None None None	84 25 67 62 46	First Second Third Fourth Fifth
9	Convert individual subsystems for pilot installation	Director of Institutional Research/Installation Team	5	None	-
10	Evaluate pilot installation and modify detailed design as required	Executive Secretary/Installation Team	4	None	-
11	Convert all institutions	Director of Institutional Research/Installation Team	Not determined as yet	Not determined as yet	-
Total			56	284	

MISSOURI HIGHER EDUCATION  
PROGRAMMING MAN-WEEKS REQUIRED,  
BY TYPE OF PROGRAM AND DEGREE OF DIFFICULTY

<u>Type Of Program</u>	Man-Weeks Required, By <u>Degree Of Programming Difficulty</u>		
	<u>Easy</u>	<u>Medium</u>	<u>Difficult</u>
Standard Utilities	1		
File Maintenance	3	5	8
Planning Report		5	7
Information Report	3	5	7

MISSOURI HIGHER EDUCATION  
ESTIMATED PROGRAMMING REQUIREMENTS

<u>Type Of Program</u>	<u>Number Of Programs, By Degree Of Difficulty</u>			<u>Total Man-Weeks Required</u>
	<u>Easy</u>	<u>Medium</u>	<u>Difficult</u>	
Student				
Standard utilities	4	-	-	4
File maintenance	6	-	-	18
Planning report	-	6	1	37
Information report	<u>5</u>	<u>2</u>	<u>-</u>	<u>25</u>
Subtotal	<u>15</u>	<u>8</u>	<u>1</u>	<u>84</u>
Program				
Standard utilities	1	-	-	1
File maintenance	1	-	-	3
Planning report	-	1	1	12
Information report	<u>3</u>	<u>-</u>	<u>-</u>	<u>9</u>
Subtotal	<u>5</u>	<u>1</u>	<u>1</u>	<u>25</u>
Financial				
Standard utilities	2	-	-	2
File maintenance	1	2	-	13
Planning report	-	5	1	32
Information report	<u>-</u>	<u>4</u>	<u>-</u>	<u>20</u>
Subtotal	<u>3</u>	<u>11</u>	<u>1</u>	<u>67</u>
Personnel				
Standard utilities	2	-	-	2
File maintenance	1	1	-	8
Planning report	-	5	1	32
Information report	<u>-</u>	<u>4</u>	<u>-</u>	<u>20</u>
Subtotal	<u>3</u>	<u>10</u>	<u>1</u>	<u>62</u>
Facilities				
Standard utilities	1	-	-	1
File maintenance	1	1	-	8
Planning report	-	3	1	22
Information report	<u>-</u>	<u>3</u>	<u>-</u>	<u>15</u>
Subtotal	<u>2</u>	<u>7</u>	<u>1</u>	<u>46</u>
Total	<u>28</u>	<u>37</u>	<u>5</u>	<u>284</u>

## IMPLEMENTATION TIMETABLE

An implementation timetable has been developed on the basis of the systems and programming requirements identified previously. The requirements have been subdivided by task, as on Exhibit VIII-1. Exhibit VIII-4, following, shows the resulting timetable, assuming that preliminary steps are taken in September 1968, and necessary systems and programming resources are committed in October. For planning purposes, it is estimated that the equivalent of four full-time programmers will be assigned to this effort.

MISSOURI HIGHER EDUCATION  
IMPLEMENTATION TIMETABLE

STEP	1968			1969												1970												1971											
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC											
1. Obtain agreement on priority of subsystem conversions after consulting with public and private institutions and State officials	•																																						
2. Establish framework for coordinating and controlling the detailed design of the information system	■																																						
3. Determine detailed equipment requirements and arrange to obtain its use	■																																						
4. Make arrangements to secure necessary systems and programming manpower	•																																						
5. Design subsystems in detail:																																							
Student																																							
Program																																							
Financial																																							
Personnel																																							
Facilities																																							
6. Select colleges for pilot installation																																							
7. Review detailed design with colleges selected for pilot installation																																							
8. Code, test and document required programs:																																							
Student																																							
Program																																							
Financial																																							
Personnel																																							
Facilities																																							
9. Convert individual subsystems for pilot installation																																							
10. Evaluate pilot installation and modify detailed design as required																																							
11. Convert all institutions																																							